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News

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DECEMBER 1940

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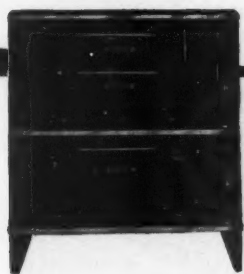
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DECEMBER-1940

BUTANE-PROPANE

News

Reg. U. S. Pat. Off.



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HOW OUR MERCHANDISING DEPARTMENT SERVES YOU!

L. P. G. dealers who avail themselves of P-W Merchandising Department *services* discover the true meaning of that word! Not only do they find a *complete* line of highest quality Liquigas equipment from which to draw their needs but they find that line *properly priced*! Equally important they likewise find our Merchandising Department is backed by the *full resources* of our Engineering Department! After many months of careful selection of items, appliances and equipment, a complete catalog listing the full P-W line has been published. Replete with descrip-

tions, this catalog is a working catalog because *it contains only list prices*. Thus our dealers are in a position to take full advantage of its data and information during customer sales conferences. Let this unbeatable combination—a *complete line, a properly priced line backed by soundest engineering counsel, a quality line*—work for you in building your sales. To interested dealers within the territory served by our Merchandising Department, we will gladly send a copy of our catalog and full details concerning the services of our Merchandising Department.



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CELLANEOUS ITEMS

LIQUIGAS EQUIPMENT

LETTERS

- **BUTANE-PROPANE** News welcomes communications from those identified with the liquefied petroleum gas industry, but readers will understand that this magazine does not necessarily concur in personal opinions so expressed.—Editor.

Gentlemen:

We understand that there is a chain of filling stations supplying butane for trucks that make interstate and transcontinental runs, and as we are in a position to furnish butane for such purposes we would appreciate it if you would put us in touch with the parties charting such routes so we could be listed thereon.

Vice President
Cannon Gasoline Company
Amarillo, Texas

F. J. STORM

A list of filling stations serving butane for automotive purposes has been compiled by BUTANE-PROPANE News and will be found in the back of this issue. The directory shows scores of places where service can be had on butane-converted motors, conversions made, and the number of hours per day attendants are on duty. Your name has been added to the list.—Ed.

Gentlemen:

Please mail us a copy of the September, 1940, issue of BUTANE-PROPANE News. Someone removed ours from our reading stand before we had a chance to even glance at it.

H. D. MARKS

Modern Appliance Company
Daytona Beach, Florida

Moral: Let nothing interfere with reading BUTANE-PROPANE News as soon as it arrives.
—Ed.

Gentlemen:

I am contemplating installing a butane-propane service in the small town in which I live. In part of the service, I wish to use an underground system with pipe lines and meter service. We have occasional temperatures of 15 degrees below zero. The ground seldom freezes below 18 inches. I have been figuring on two different systems, the vapor line system and the liquid line system. Most of my hookups would be to property without basements. Would it be possible to install vaporizing coils below the surface of the ground, installing them in steel casings open to outside surface and covered with frost proof caps? I would figure on running coil

in upright position from five feet up to three feet below the surface of the ground on inside of casing. Coil would be about 12 in. across and 50 to 100 feet long, as needed. Safety release valve from pressure regulator would have vent above top of ground. Metering devices would set immediately above coil. Would this kind of outfit work? Would this be as good as a straight vapor outfit for a propane-butane mix?

A. C. T.

Missouri

We do not recommend a liquid system. For temperatures as low as 15° below zero, a low pressure vapor distribution system using straight propane gas, can be made to operate successfully. The use of butane-propane mixture at your temperatures is not recommended.—Ed.

Gentlemen:

What would you say is the amount of approved odorizing agent necessary for protection in the use of butane or propane? Is five gallons of odorant to 10,000 gallons of commercial butane or propane sufficient?

W. G. V.

Kentucky

Among the companies and authorities we have interrogated the most accepted ratio is one gallon to 10,000 gallons. Even three quarts to 10,000 gallons is used. Too much odorant causes unnecessary service complaints. The product will vary somewhat in strength, depending upon the brand used, and companies manufacturing odorants should be queried as to the proper amount to be used.
—Ed.

Gentlemen:

We are interested in the recent progress of bottled and tank gas in rural areas, and I would appreciate it very much if you could send us the last half dozen issues of BUTANE-PROPANE News.

A. W. BAUM

The Country Gentleman
The Curtis Publishing Company
Philadelphia, Pennsylvania

Gentlemen:

I wouldn't do without BUTANE-PROPANE News. I have some numbers I wouldn't sell for the price of the subscription. You have a wonderful paper. The best of luck.

E. C. JENNINGS

Muleshoe, Texas

USE OUR RESEARCH DEPARTMENT

The BUTANE-PROPANE News technical staff will gladly endeavor to answer all legitimate inquiries (except legal and financial) about the LPG industry which regular subscribers submit.—Editor.

QUALITY
TOKHEIM

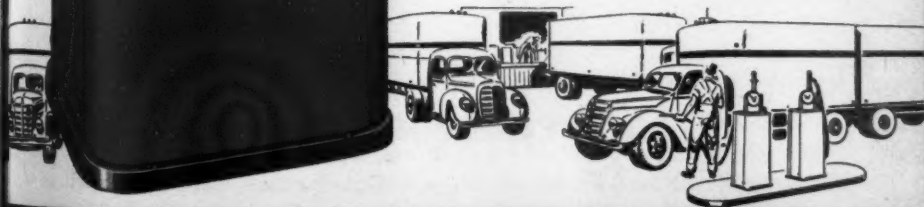
BUTANE- PROPANE EQUIPMENT

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1. Engineering Research.
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Tokheim Pumping and Dispensing Units represent the most complete and modern equipment available for handling Liquefied Petroleum Gas. The outstanding features and proved performance of Tokheim equipment are responsible for many users' adopting it as standard. Tokheim gives you the benefit of forty years' experience in building quality dispensing equipment. Write for complete details—no obligation.

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TOKHEIM OIL TANK & PUMP COMPANY

GENERAL PRODUCTS DEPARTMENT

DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT

SINCE 1901

Our GUEST EDITOR for December



DR. A. ERNEST MACGEE

Manager Skellyfuel Sales, Skelly Oil Co., Kansas City, Missouri

Price vs. Habit

By A. ERNEST MACGEE

VERY few people would admit that they are tied to the past, but we, who have developed new products and have pioneered in marketing them, know that it takes lots of advertising, personal solicitation and other sales effort to get any sizeable percentage to change to the new product or service. People tend to do things today the way they have done them in the past.

Because people tend to resist change, the liquefied petroleum gas marketer has a tremendous advantage if he always conducts his business from the standpoint of giving the customer a properly designed installation to start with and then following this up with prompt and courteous service of a dependably good product. After the prospect's latent resistance is overcome and your equipment and appliances have been installed and your liquefied petroleum gas has been used, the "rule of habit" will be working for you just as long as you give adequate service. And it almost goes without saying that entirely satisfactory performance cannot be obtained, no matter how good the fuel, or how prompt and courteous the service, if an improperly designed and poorly constructed installation is made at the beginning!

In many cases "price" is only a minor consideration in causing a customer to change and in cases where this question arises, "habit" helps you resist it if service and quality are beyond reproach. Often a mistaken emphasis is put on "price," because imagination, energy, courage and courtesy will secure and hold the customers, benefiting all concerned. Thus you make a profit and stay in business and the customer receives a satisfactory service year after year.

EXPERIENCED

• When "bottled" gases were in their infancy "American" research already was focused upon developing special meters and instruments for handling them. Behind the complete "American" line is a century's pioneering of every genuine advance in gas measurement.



GENERAL OFFICES • 60 EAST 42ND STREET, NEW YORK, N. Y.

AMERICAN
METER COMPANY

INCORPORATED ESTABLISHED 1899

MAINLY BEYOND THE MAINS

ONE MAN'S MEAT

In examining the current promotion campaigns for cooking appliances, we believe serious thought should be given to the fact that what is meat for the gas industry, might not turn out to be even good fish for the LP-Gas business.

The use of manufactured or natural gas for cooking is an accepted fact in the great majority of homes in the territories that these gases serve. Range promotion then, designed for piped gas localities, is chiefly concerned with the replacement of old and outmoded gas ranges by new and modern equipment. Under these circumstances, the logical and legitimate aim of the stove manufacturers, the gas appliance dealers and the merchandising utilities is for a high average unit of sale. Public utilities encourage this outlook for the simple reason that they have everything to gain and nothing to lose by setting their sights at the highest elevation within reason. If the customer says no to the arguments for a new stove, he will probably just keep on burning gas in his old model.

But to the LP-Gas man this comforting reflection is at present denied. His is essentially a pioneering job—selling a new fuel, in a virgin territory, and against the competition of gasoline, oil, coal, wood and electricity. Every installation involves a two-fold selling job—sale of the fuel itself, and sale of one or more of the appliances that are to burn it. In most instances price is an all important factor, and the sale of a new installation may easily stand or fall on the question of total initial cost. If the LP-Gas man's customer says no, he is likely to just keep on burning wood.

We don't urge for a minute that the butane or propane dealer go into a flat spin of apprehension and concentrate his sales efforts on low priced or even medium priced merchandise. Each prospect must be appraised for his likely

purchasing power and the selling effort used on him adapted to that appraisal. Every territory in which the dealer operates is a problem unto itself. One will absorb a high percentage of de luxe merchandise; another will buy only appliances and equipment that are decidedly in the competition price brackets.

No dealer can afford to neglect a study of his average unit of sale. He must know from experience as well as from instinct what models will sell and what models will not. He should feature and display those that are best suited to his own type of trade; and he simply cannot afford to assume that the item that moves best on the lines of a metropolitan utility will set the world on fire out where the prospects chop their own stove wood.

Hitch your wagon to a star? Sure; but if you are planning to go someplace today, don't junk the family flivver.

FUELING STATION DIRECTORY

The liquefied petroleum gas industry is becoming increasingly impressed by the rapid growth of the butane power field. While the greatest number of conversions to LP-Gas has occurred on the West Coast, the movement, for such it has become, is spreading eastward and is already firmly established in the Southwest and Mid-continent areas.

In California, converted engines for trucks, tractors and stationary plants are consuming more than two million gallons of butane monthly and changeovers are totaling as many as 500 per month. Many owners of large trucking firms and municipalities have converted whole fleets of trucks of 50 or more, and passenger bus systems have found it an ideal fuel.

As truck owners ply the highways with their huge cargoes it becomes more and more vital that they have information where butane is obtainable. As an aid to them and all members of the industry, BUTANE-PROPANE News has started the compilation of a National list of fueling stations equipped to sell fuel, make conversions, furnish parts and perform repairs on automotive equipment. The first publication of this directory opens on Page 86 of this issue.

The assistance of our subscribers, station operators and all interested parties is invited to help keep this list currently revised, accurate and complete.

Butane is the Answer

To Three Hundred Years of Search for Best Engine Fuel

By R. R. WYKER

Sales Manager, Ensign Carburetor Co., Los Angeles

POWER is defined by Webster as "force tending to produce motion." Man's earliest experiments with power go back many years and are closely allied with transportation. In the history of butane power, it is necessary for us to consider the evolution of the internal combustion engine.

In 1680 a Dutch scientist described the first step, the invention of the first explosion engine. Development was very slow until 1838 when in England a double-action gas engine was made. In 1860, in Paris, a practical gas engine was developed which started easily and was fairly quiet in its operation. It was first used to drive machine tools, printing presses and water pumps. It is interesting to note that all of the internal combustion engine experiments, conducted in these early days, were with dry gas engines. Liquid fuel engines did not appear until somewhat later. In 1862 the inventor placed one of these engines in a vehicle and, using illuminating gas for fuel, successfully drove from Paris to Joinville-la-Pont. Improvements in internal combustion engines have been continuously made up to the present

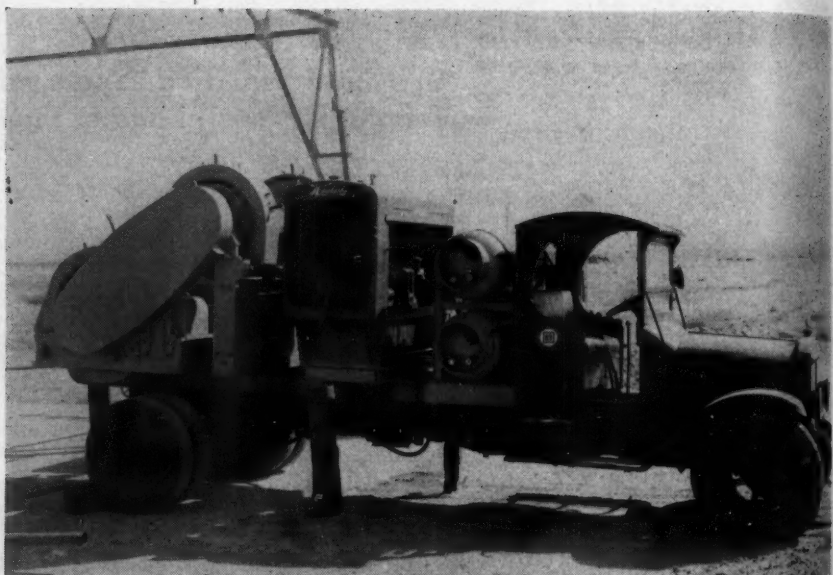
Dry gas as a fuel for stationary engines has been used ever since 1862 and installations of such engines made at the beginning of this

century are still serving as standby units. The Western Union Telegraph Co. has many engines 35 or more years of age that are still in excellent operating condition and are being kept ready for emergency use.

Until the appearance of butane, illuminating gas was not satisfactory as a transport fuel as the quantity of fuel that could be carried on movable vehicles was very small.

According to Mr. A. N. Kerr, of Los Angeles, one of the LP-Gas pioneers, early experiments in the production of this fuel were made in the first decade of this century and progress was rapid, reaching its first peak in the period from 1927 to 1931. Sales in 1928 showed a 314.6% increase over the previous year. At this time the economic possibilities of LP-Gas as a fuel for internal combustion engines manifested itself. Early experiments with butane carburetion equipment brought forth some weird devices; however, in a very short period of time carburetion equipment became available.

Among those early identified with the gas carburetion field was O. H. Ensign, the founder and president of the Ensign Carburetor Co. until his death in 1935. Having already spent considerable time in research on the subject of gas carburetion,



OIL WELL SERVICING UNIT, butane fueled, operating in California. FREIGHT LOCOMOTIVE in Indiana which uses butane for its power.



POWER SHOVEL, burning butane on Arizona job. **TRACTOR AND SCRAPER** building Iowa road. **BREAK-IN TESTS** are made with propane by Ford Co.

he soon produced practical butane carburetion equipment. The first commercial installations of butane for power purposes were made in California on tractors and pumping engines. For the first half of the period from 1930 to 1940 sales were almost entirely limited to that state. In direct contradiction to Horace Greely's advice "Go West Young Man" butane power is moving eastward and today liquefied petroleum gas can be had for power purposes very generally in many states, with heavy concentrations in the Pacific Coast and the Southwestern sections.

One interesting fact in connection with the use of butane for power is contained in a report, dated Oct. 22, which states that the oil fields immediately surrounding Tulsa, Okla., where drilling was practically dormant, are now undergoing a small boom. Nineteen wells are being drilled at the present time and all of these rigs are butane powered, internal combustion engine-equipped outfits. Innumerable other applications are made in commercial, industrial, agricultural and automotive fields.

Large Sales Increase Last Year

According to the last calendar year's reports the 1939 sales of LP-Gas for internal combustion engine use, reached the total of 29,792,000 gals., which was an increase of 37.2% over 1938, compared to a total sales for all uses in 1933 of 38,931,000 gals.

Before the present world conflict began, many authorities expressed the opinion that the use of butane

was destined to increase constantly, as the sources of supply are greatly in excess of the present demand. From the users' point of view it is destined to move forward on the results obtained.

Why Butane is Superior

Butane is a superior fuel due to its high anti-knock value which results in increased power output, decreased specific fuel consumption, increased torque, and this means more work per dollar. More perfect combustion results in constant fuel-air ratios, the elimination of vapor lock and obnoxious exhaust odor, better idling, the elimination of crankcase dilution and the lowering of under-hood temperatures plus the elimination of carbon deposits, resulting in longer valve life, with lower maintenance. Butane as a volatile fuel is stored in pressure containers that are more resistant to puncture or rupture in case of accident, which means reduced highway accident hazard. Butane is not usable in ordinary passenger car motors without special carburetion equipment and it may be said that this prevents fuel pilferage. These results altogether spell superior economical operation, which is apparent to anyone today who is operating internal combustion engines.

Distributing and dispensing depots are being constructed rapidly throughout the United States. With the increased availability of butane and the large number of potential users of equipment who are not yet equipped for butane power, it would appear that the future growth will continue at a pace proportionate to that set in these past few years.

St. Louis Industrial Field Is Invaded by Propane Gas

By JACK LAMBERT

Manager, St. Louis Skelgas Division, Skelly Oil Co.

THE efficiency, convenience and cleanliness of propane gas are responsible for the rapid replacement by it of other fuels in industry, and its use is reducing costs and improving the methods of manufacture.

We not only make calls at manufacturing plants to see whether our gas service and engineering department can be of help to the firm's production men in their problems but frequently they will come to us for a solution in providing efficient heat at a specific point.

A material for marking traffic lines that meets exacting requirements has been perfected and marketed after two years of persistent search, and propane gas has played an important part in this development. Millions of dollars have been spent painting and repainting, and the results were inadequate marking, both in extent and visibility.

A search for a new material that would enable traffic officials to get away from constant repainting was

started and a list of essential requirements for this material was set up. This list was established as fundamental:

It must have high visibility and be light reflecting; highly resistant to abrasion and the terrific wear of traffic; thin and flexible so that it will closely conform to irregular pavement surfaces; properly resistant to high pavement temperatures; completely non-staining and non-absorbent so that it will be impervious to crank-case drippings; resist burning sun, hard freezing and all other climatic factors; lend itself readily to application by automatic machinery, and it must be unaffected by the normal expansion and contraction of pavements.

Out of the laboratory came a material for markers which was placed in a really "tough" spot—one where the traffic count was well over a 25,000 daily average. Here the material was subjected to wear and grind of traffic, burning sun, frost, snow plows and stains. Some slight changes were made to get satisfactory results.

This new marking material, developed and manufactured by the Armos-Flex Co. of St. Louis, is used for all required pavement messages, warnings, lines and sym-



JACK LAMBERT



Propane gas has played an important part in the application of a new material for the permanent marking at traffic lines. This picture was made at 12th and Delmar, St. Louis, where the traffic count is 25,000 daily average.

bols. It is 3/16-in. thick, a very hard, yet flexible, tile-like marker set up on the surface of the paving with a special asphaltic adhesive furnished with the markers.

The permanent markers are applied to the pavement surface with a special asphaltic cement, used hot. Special equipment is available for hand-laying, and this consists of a two-burner propane gas stove, a tank for heating the adhesive in which a revolving drum applicator operates, vacuum cup handles for the markers and two rubber-soled clogs for the feet, to be used in pressing markers onto the pavement. Markers can be laid in dry, cold weather by the use of a pavement heating torch. Application is simple and easy for ordinary labor.

The use of this new marking material gives permanent year-round marking of high visibility, and cuts the cost of marking to approximately 10% of that of painting.

Metalizing is widely used for maintenance, salvage, production, corrosion—resistance and decorative application in industry, and acetylene and hydrogen were the only gases used in the metalizing industry until recently. Metalizing is becoming more common in machine and welding shops and in the maintenance and salvage departments of industries.

Adopting propane gas, our users have found spraying speeds surpassing those obtained with any other gas, so that much more can be accomplished in an hour's run through the use of propane gas at normal operating pressure and in economical volume.

The Schroeder Welding Co., of St. Louis, in its metalizing operations, uses propane gas in coating large shaftings and large castings. With the use of propane gas a coating is produced which is much finer in texture. A. Schroeder, president of the company, has reported to us. He also reports an increase in density of the coating.

"We have less trouble with a gun when we use propane gas," Mr. Schroeder said. "There is no back-fire such as you have with other gases. The gun gets full of carbon when burning acetylene and we have to stop and clean it. So we operate steadier with propane gas. We spray more pounds of metal, stainless steel and bronze per hour with propane, running one

and one-half to two pounds more than with other gases.

"Propane gas has reduced the gas-oxygen cost by as much as \$1 an hour or 25% lower than former costs." The Schroeder Co. has been using metalizing applications for seven years and bought the third spray gun for metalizing purposes made in America by the Metalizing Co. of America.

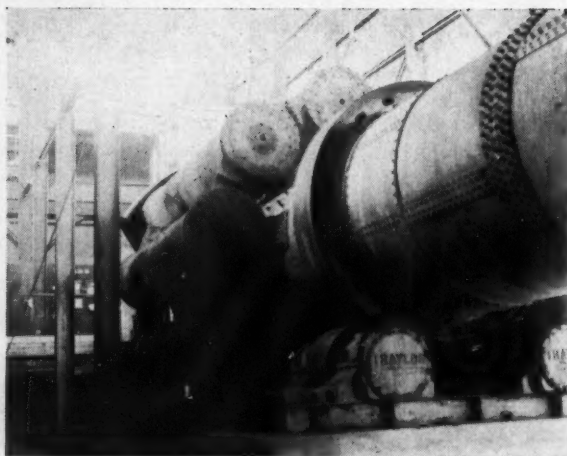
The Meletio Sea Food Co. of St. Louis, one of the largest fish distributing concerns in the country, in designing a portable fish fryer, was confronted with the problem of supplying a quick, hot fire to expertly cook fish just removed from a cold, low temperature cabinet. A propane gas appliance was designed and installed for the fryer and it has been found ideal for all deep fat frying. The fryer turns out golden brown fish, frogs

and sea foods. It is thermostatically controlled, and can be used anywhere. The cabinet has dimensions of 48x31x36 inches, and is equipped with two heavy gage baskets. This portable fryer is now used by roadside stands and taverns, fairs, circus concessions, carnivals and civic and social organizations.

Tourists from every corner of continental America and world travelers from many lands visit St. Louis' internationally famous zoo. Thousands attend its daily wild animal training shows, and the surpassing mimicry of its Chimpanzee has been recorded in movie news reels and dramatized over the radio. The kitchen in the Primate House at the Zoological Gardens is equipped with a propane gas range on which the food for the famed acting monkeys is



Food for the famed acting monkeys of the St. Louis Zoological Gardens is cooked on this propane gas range.



In the Missouri Portland Co.'s experimental laboratory propane gas is used to heat the experimental kilns, which are a replica in miniature of the huge revolving cylinder shown in the picture.

cooked. The shelter houses and other buildings in Forest Park, where the zoo is located, are heated by oil and propane gas is used to start off the oil burners.

The breakage of Neon lights used in advertising the shows and rides at the better carnivals is large, and such companies as Beckmann & Gerety, Hennies Bros. and Royal American Shows operate portable Neon tube plants on the carnival grounds. These companies use propane gas exclusively to produce the heat needed in bending and shaping the Neon glass tubes.

In the rapid development of the business of designing and installing ornamental store fronts with porcelain enamel on steel, some sections of the enameling industry are turning to propane gas. Enameling companies have found that propane gas has a higher b.t.u. content than the fuel used in the past. One of the first large enameling companies to adopt propane in the Midwest was the Peerless Enamel-

ing Co., of Belleville, Ill., where it is used in the furnaces and in fusing the porcelain enamel on steel. Porcelain enamel panels, used on signs and ranges, are also made with the use of propane.

St. Louis is one of the world's greatest shoe manufacturing centers, and propane gas is widely used in shoe factory operations, this gas replacing competitive fuels. In the stitching machine operations, where the wax is heated on the thread; the shaping machine where the die is heated and the leather shaped over the die, and in the singeing of leather where heat is passed over the shoe when put on the last, propane gas is used in all the factories of the Brown Shoe Co., of St. Louis.

In the shoe heel factories in St. Louis, heat from propane gas is now used in applying plastic materials and in shaping the plastic over wooden heels. Using propane in applying heat to plastic materials in sheet form has been found more satisfactory than other fuels.

The making of cement is an interesting process. The art is in the right application of chemistry and mechanics in the operation of tools and machinery so that the product turned out is uniform and so constituted as to resist weather and wear. Chemists, for instance, sample the material every 15 minutes as it makes the long trip through the plant of the Missouri Portland Cement Co., St. Louis. This insures uniformity and if the mixture by these tests show it is off the rigid requirements, the correction is made before the cement reaches the stockhouses as a finished product. In the Missouri Portland Co.'s experimental laboratory propane gas is used to heat the experimental burning kilns, which are revolving cylinders, lined with fire brick,

and where blasts of flame shoot over the flowing molten mass.

Some St. Louis area breweries have adopted the use of propane gas for operating their branding machines in putting the company's name and number on beer kegs. Dairy companies are also using propane with their automatic branding machines in stamping their firm name on milk cans and milk bottle cases.

The Johns-Manville Co., in St. Louis, in construction jobs, has switched over to propane gas in melting pitch material which is applied to insulating materials so that they will adhere to walls, ceilings and floors of buildings.

Propane's important place in the industrial world is being rapidly established by its many and varied applications.

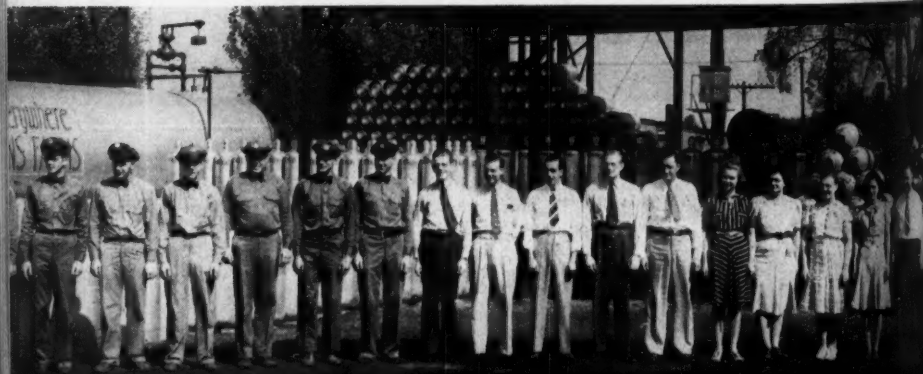


Underground tanks being unloaded, a truck tank ready to start on a service trip and officers of the Red Devil Butane Gas Co., Franklin, Ky. Left to right: J. C. Stallons; Elwood Stallons, and R. N. Short, general manager. This company has recently ordered an 18,000-gal. bulk plant to supply fuel to its growing list of customers.



Small Towns and Country Homes are Served by Same Company

AT TOP: The new office building and some of the equipment of the Wisconsin Rapids Gas Co., Wisconsin Rapids, Wis. The bulk plant is located on the same property. CENTER (above): The "Showboat", which is used for displaying gas appliances to prospective customers in towns and rural districts. BELOW: The servicemen, salesmen and office force whose responsibility covers the able representation of the company over a one-thousand square mile territory in the Midwest.



"Four-Way" Distribution Plan For Rural and Urban Service

THE history and development of the Wisconsin Rapids Gas Co. and Gas Service, Inc., parallel the successful advance of the LP-Gas industry over the last eight years and are reflections in large degree of opportunities that have existed and still exist for dealers and distributors to create sound businesses out of virgin territories.

Something of our activities and methods may be of interest.

The Wisconsin Rapids Gas Co. has four divisions to its operations:

1. The storage tank is the basis of supply for serving the business district on both sides of the river through a system of mains, services and meters. In other words, the bulk storage tank acts as the "city gas" plant. Every eating place, including hotels, restaurants and taverns in the business district, is served from these mains.

2. The liquid is drawn from the bulk storage tank and pumped into a 600-gal. tank mounted on a truck chassis. This chassis is equipped with a pump for pumping the liquid from the tank truck to auxiliary containers, serving mains in some 30 residential locations in Wisconsin Rapids and neighboring towns. These auxiliary tanks are of 500-lb. capacity and mains, services and meters extend from these tanks, which are usually located within the curb at street intersections.

• **LEE H. BARKER**, president and organizer of the gas companies described in the accompanying article, became interested in the LP-Gas industry when he discovered during the depression era that production and sales figures of the industry were mounting steadily year by year. This set him to investigating the field and the market. The result further stimulated his desire to enter into the business and the original Gas Service, Inc., was organized in 1932. From then his own story forms the record.—Editor.

3. The most extensive operation of the company, however, consists in filling 150-lb. cylinders installed at customers' residences in the outskirts of Wisconsin Rapids and in the 23 neighboring towns served by the tank truck. Meters are installed with each 150-lb. cylinder and the customers are billed, just as they are on the system of mains, on a monthly basis according to the meter readings, as is the common practice among all gas utilities. The area in which the company operates this way consists of about 1000 square miles, extending as much as 45 miles out of Wisconsin Rapids, under an order of the Public Service Commission of Wisconsin granting the company the right to operate in this area as a public utility.

4. In February of this year the



Lee H. Barker smilingly resigns himself to an interview about his company's operations.

company introduced its "cash and carry" system, using the 20-lb. cylinders in the utility area. Very little conflict has developed because of the meter system and the cash and carry operating in the same area, as a customer in purchasing a new gas range or other appliance is given the choice of the two methods. Inasmuch as we view the

metered service as being more fixed, we will change a customer from the cash and carry system to the metered service without charge but do not as a rule change the other way around unless it is to the decided advantage of the company to make such change, such as cutting mileage off the route of the tank truck.

We have found it quite simple to determine how often to fill a cylinder from the average meter readings of each customer. Those cylinders located close to Wisconsin Rapids may, depending on the consumption, be filled as often as once a week, once every two, three or four weeks. Those customers living in towns more remote are usually supplied with sufficient cylinder capacity to provide at least one month's supply of gas with 25% extra capacity to take care of extraordinary consumptions.

Gas Service, Inc. became active three years ago, at which time it began to develop a dealer organization handling gas outside of the



Typical residence street in Wisconsin Rapids, Wis., upon which is buried at the corner, within the curb, a 500-lb. capacity auxiliary tank from which extend mains to serve nearby homes.

◆

This is the method used in removing the liquid propane from the bulk plant and pumping into the tank truck, from which are filled the cylinders buried in the ground on street corners which, in turn, supply gas for the mains leading to domestic installations.

◆



utility area in 20-, 60- and 100-lb. cylinders. All cylinders of Gas Service, Inc. are filled at the loading dock operated in connection with the bulk plant.

Up until 1940 the Wisconsin Rapids Gas Co. employed two salesmen who canvassed in Wisconsin Rapids and the neighboring towns. In 1940 after moving into our new office building, the sales depart-

ment was expanded to five salesmen, including a sales manager. A display truck, which we call the "Show Boat," was provided for the use of the sales department.

The general plan of operation is to send two salesmen with the "Show Boat," in which are mounted six gas ranges, an automatic water heater and a refrigerator, into one of the towns in the utility area,



Wisconsin Rapids Gas Co. bulk plant, including pump house, storage tank and loading dock.

where these men invite home-makers into the "Show Boat" to view the ranges and appliances. The "Show Boat" is equipped with a loud speaker and in addition the salesmen go from door to door to personally invite the home-makers to view the ranges. In this manner prospects are found. The next day the salesmen go back to the town in which they have canvassed the previous day to follow up the prospects and the "Show Boat" is placed in the hands of two other salesmen to canvass in the next neighboring town. Attendance prizes are given out of the "Show Boat" at the end of each day in a town, drawn for by lot from the prospects cards.

The sales department at this time is in the midst of an "Old Range Round-Up" sales campaign. The display windows and the display floor of the office are outfitted with corrals, saddles, bridles, and all employees, including the manager, wear 10-gallon hats, not only while on the job but everywhere

during the campaign. This is done to ingenerate enthusiasm in the sales department and makes our community conscious of the sales campaign, as many a quip and laugh are shot to the employees by acquaintances, all of which we feel is good advertising for the campaign and the company.

The company has established dealers and depots in the neighboring towns and these dealers join in the campaign by providing the sales department with window display space and by wearing the 10-gallon hats. These by the way, are made of paper mache and cost only 10 cents each so that if some are spoiled they can be replaced.

Outside of the special campaigns, we develop our own advertising for newspapers and direct-by-mail. The direct-by-mail pieces are also used by Gas Service, Inc. in circularizing prospective customers, a list of which is required for each dealer. Gas Service, Inc. also provides necessary mats and lantern slides for its dealer organizations.

Consumer Acceptance of L P-Gases Changes Former Selling Methods

By CRAIG ESPY

BACK in 1933, H. C. Pittman, of Cotulla, Texas, learned about a fuel that would burn like natural gas from a tank. The spark of interest developed at that time burst into fervor heat when Mr. Pittman bought a gallon of the stuff, a tank and a one-burner hot plate and discovered by actual test how long that amount of fuel would burn.

At Tyler, Texas, the evening of Sept. 11, 1940, approximately seven years later, I rang the telephone at the Pittman residence. Mr. Pittman was out but Mrs. Pittman told me how I could see Mr. Pittman the next morning. "He gets up at 5 A.M.," she said, "has a cup of coffee and reaches the office between 5:30 and 6." This report strengthened the conviction that here was "pioneering," here was "endurance, aggressiveness, inter-

est and enthusiasm"—and a story.

Addicted as I am to 7 o'clock rising, I thought I must this once meet Mr. Pittman on his own ground and in his own way. So there were two of us who simultaneously drew up at the offices of Automatic Gas Co., Inc., the next morning. (One was unshaved, without his coffee and a little haggard.)

Mr. Pittman was as surprised to see me as I was to get there at such an hour, but after the usual preliminaries, and upon being pressed for his story, Mr. Pittman looked at his watch, debated for a moment, and finally allotted me an hour for visiting. Then it was that he related the history of the Automatic

Some of the Automatic Gas Co. personnel. Seated: H. C. Pittman, president. Standing (in center): M. G. Highnote, credit manager; Rear: C. I. Manley, H. B. Pittman, R. J. Woodall, H. C. Pittman, Jr., C. E. White, and W. P. Stamps



Gas Co. and some of its methods for doing business.

The company was organized Oct. 5, 1935. It now serves close to 5000 customers in 45 counties. With the main office at Tyler, branch offices are maintained at Sulphur Springs and Madisonville. The company operates 14 bulk stations at present and is putting in bulk plants shortly at Marshall, Paris, Sherman and Athens. From the first the company sold butane plants and fuel at a reasonable, but profitable price and is still getting within \$10 to \$15 of the original price for systems.

Good Pay. Small Turnover

The company has paid its salesmen well from the start and consequently has had but little turnover within the organization. The salesmen, which now total 20 in number, receive 15% commission on everything they sell except the plumbing that goes in on the job. Each salesman is also given a protected territory consisting of two or three counties. No matter how sales come in, the man in any given territory gets the credit. There is also the established policy of selling only the best appliances, as the company has proved to its own satisfaction that there are fewer service calls on good appliances and more customer satisfaction.

It is also maintained that prompt fueling and servicing have proved to be a fine practice. Nineteen tank trucks are used in the fueling process. The maximum number of customers served on any one route is 400. Monthly calls are made on each customer, so he knows that he

is getting what amounts to a utility service beyond the utility main. Frequent calls of this nature dispel the customer's fear of running out of fuel and add to confidence in the organization. Each truck is equipped with a meter and ticket stamper which provides a receipt for fuel purchased and this is another method used to build confidence. The 19 trucks use butane for their own power and each is equipped with a butane pump.

Demonstrations Abandoned

In the early days of the company the salesmen carried demonstrators and other methods for showing what butane is and what it does, but today one of the main pieces of sales ammunition is a "flyer sheet" showing a picture of the organization and equipment utilized by the company. So well is the industry now known, it no longer seems necessary to engage in "missionary" selling, but rather to reveal the strength and scope of the organization. Long term fuel contracts with butane producers are also shown the prospect as proof that his needs will be protected.

A sales method the company uses with much success today is that of making it worth while for customers to send in names and addresses of prospects for fuel and appliances. The letter the company mails out in this connection offers a credit card that is good for 25 gallons of "Automatic Gas" to everyone who sends in a name of a prospect who is later sold an order. If two send in the same name, priority decides the winner. "Send us the names and addresses," the

letter says, "of your friends and neighbors—not just anyone you know, but those who can afford to own a system for cooking, heating, lighting, hot water and refrigeration. Call in these prospects from time to time and show them your Automatic gas system. Tell them of its merits, its conveniences, the reliability of the company behind it and the service rendered. Sell them the idea of modernizing their home economically. Sell them from the owner's point of view. It will help our salesmen make more and quicker sales, you will be doing your friends a real favor, and for the ones who buy you will receive the reward named."

But before that letter goes out one arrives in the hands of every customer shortly after he has bought a system. It is intended to build confidence in the company and in the service. It thanks the customer for the order; it promises him the company will do all possible to give the best service, which includes the guarantee that he will never be allowed to run out of gas because a monthly delivery system

is maintained; it stresses the capabilities of the servicemen and safety precautions used, and it invites the customer to consider larger and newer appliances.

Mr. Pittman stated that he greatly favors a complete business system and uses printed forms for salesmen's reports, daily office reports, delivery reports and all customer contracts. They are not all originally drawn as good practices of other firms have been adopted, but they keep his business and the company operations well organized, which he thinks is invaluable to the proper conduct of any business, especially that of LP-Gas and appliances in which so many different kinds of accounts may be carried with the same customer.

The branch office of the company located at Madisonville is managed by H. P. Pittman, with O. M. Padgett being assistant manager. Klough Williams and W. M. Dyson have charge of the Sulphur Springs office. Each branch office, as well as the main office, fills in a daily report which keeps the management fully posted on each transaction.

A corner of the warehouse where cooking equipment made obsolete by butane gas ranges is stored. Automatic Gas Co. disposes of this outdated equipment in the best way possible. Some of it is resold and some goes into junk metal.



WHO AMONG US in the gas industry has not found himself in the middle of one of "those" arguments—the gas versus the electric range? A gas salesman, of course, can trade punch for punch. BUT not all of us are salesmen. Not all of us have at our tongue's end those telling facts and figures with which to combat the "fifth column" activities of electric cookeryists. The facts of the matter are that the gas range can meet the electric range point by point all along the line and go the electric appliance considerably more than one better on every one of them. With these points all of us should be familiar, so that we may . . .



Let the Facts Speak...

USUALLY the fun starts when someone, at an evening gathering, say, remarks in all seriousness:

"The next range I buy is going to be an electric range!"

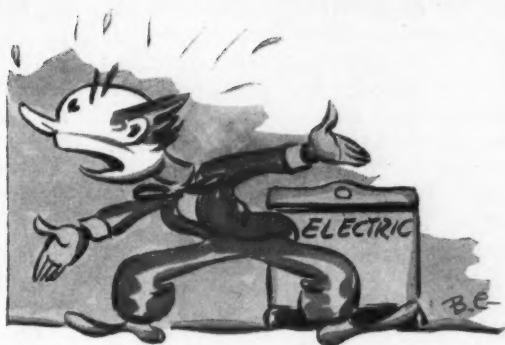
No gas man is going to sit back and let a statement like that pass without trying to find out how the other got himself in such a state of mind. If he is a gas salesman, the situation obviously is made for him. But if he is a gas man whose work has never brought him in contact with competitive matters, he finds himself trying to duck a barrage of such seeming crushers—produced, of course, in the electric industry's propaganda mill—as, "Electricity is cleaner!" "Electricity is cheaper!" "Electricity is simpler!" and the like. What to do?

Well, the very first thing to do is to find out *what sort of gas*

range your electric-minded friend has in his kitchen. The chances are better than ten thousand to one that it was purchased about 1910, and his whole idea of gas cookery is based on what that faithful old jalopy can do. The electric range he has in mind, on the other hand, is sure to be a 1940 model he has just seen demonstrated.

The implication back of all the electric industry's advertising and sales presentation is that the gas range is a hopelessly outmoded appliance; that only on electric ranges is it possible to secure automatic lighting, automatic time and temperature controls, oven insulation, full porcelain enamel, utility compartments, and the like. But the fact is this:

There is nothing in the way of a modern convenience that can be obtained on an electric range that is not obtainable on a modern CP



gas range—and at a lower initial cost, too!

The modern gas range can match feature for feature with the best electric range built and demonstrate a superior performance record, for all practical purposes, on every one of them. The American Gas Association Testing Laboratories at Cleveland recently have made careful laboratory tests of some 30 or more points upon which the manufacturer of one of the best electric ranges on the market claimed superiority of his product over a competitive appliance. In every single instance, using a stock model Certified Performance gas range, the gas range equalled the electric range, and in every important respect considerably bettered the latter's performance record.

Here is a fact to bear in mind. It is one that, in the final analysis, sets at naught everything the electric industry has to say about the performance of the electric range, and it is one that cannot be brought

out too early or too often in any gas versus electric cookery argument:

In the development of the electric range, the performance of the gas range has set the standard all along the line. In the improvement of one feature after another, electric range technicians have attempted to come somewhere near equalling the job done by the gas range. They increased the size of the top burners, stepped up their wattage, and improved the type

● **THE FACTS PRESENTED** in this article are not the work of any one man or any one organization, but are the result of much research into the problem of gas versus electric cookery. For their generous collaboration in supplying factual data for the preparation of this article, we wish to thank the American Gas Association, the American Gas Association Testing Laboratories, the Southern California Gas Co., Southern Counties Gas Co., George D. Roper Corp., American Stove Co., and the Tappan Stove Co. This article originally appeared in the October issue of GAS Magazine.—Editor.

of material used in the elements to try to match the speed of the gas burner. They have sought far and wide—and are still searching—for a metal and a method of construction to be used in the element which would permit it to stand up longer under the terrific punishment it takes—in order to try to offset to a certain extent the fact that a gas burner never wears out.

In order to secure some of the economy characteristic of gas cookery, electric range designers placed a heavy insulating jacket around the oven, thus cutting down the energy input necessary to maintain baking and roasting temperatures in the oven. To offset the disadvantage of an "after-glow" in the elements as they cool off, they have carried on a program of propaganda built around the thought that this heat loss is "stored energy," instructing their users to turn off the element at the proper moment and to let the cooking operation sort of coast to completion. (This is fully as practical as turning off the ignition switch of an automobile before reaching a stop light in order to save gasoline.) And in order to still further lessen the big difference in operating costs, they advocate the use of special pans.

The most recent development is the introduction of multiple speed elements to try to match the limitless speeds of the gas burner!

So, contrary to the notion the electric industry would like to promulgate, it is the gas range that has led and continues to lead. As the electric range has improved—

and admittedly the electric range of today is a better article than the range of 10 years ago—it has taken on more and more of the performance characteristics of the gas range. And anyone who has studied and compared the two appliances cannot fail to come to this conclusion:

The only way finally that the electric range can equal the performance of the gas range is to BURST INTO FLAME!

Which brings us back to the first point you have to establish if you expect to win the battle of gas versus electric cookery. When your electric-minded friend starts talking about the comparative performance of the two ranges, you have to make sure it is a modern gas range he has in mind. If you can get him to admit that he has never seen a modern gas range in operation, the battle is about two-thirds won. For in almost every instance, you will find that belief in the superiority of electric cookery is based on ignorance of up-to-date gas cookery, and a blind acceptance of the claims of electric appliance promoters.

It is these claims that are always brought out when an argument starts over the virtues of the two types of cookery. There are dozens of them, and a book would be required to analyze them and refute them properly. But the ones usually encountered have to do with the cleanliness of electricity, its modernity, its ease of operation, its "coolness" and accuracy, and its time and labor-releasing features. If you know the answers

to these claims, you are pretty well equipped to take care of yourself when the free-for-all begins.

"Electric cookery is cleaner than gas cookery!"

That, for instance, is one of the first and more emphatic assertions you are likely to encounter. What are the facts?

Well, first of all, just ask the other person if he has ever tried to clean an electric element after something has been spilled on it! Anyone who has tackled the job knows that it is impossible, without the expenditure of a lot of time, patience and effort, to get the thing clean; and in the meantime, if you use the element, your kitchen will be filled with smoke from the burning spilled foodstuff!

Gas burners, on the contrary, are purposely made smaller than the diameter of the average top burner cooking utensil. Thus boil-overs will run down into the catch pan beneath the burners without touching the burner itself. In addition, all CP top burners are rust-resisting, making them easy to lift out and clean. For maximum efficiency, a burner or an element should be cleaned at regular intervals. On a gas range, this job is simplicity itself; on an electric range, it can be done properly only with a great deal of bother.

As a matter of fact, cookery on a modern CP gas range is a marvel of cleanliness. The clean blue flame of the burners leaves no residue at all. The bottoms of pans are actually *scoured* with heat. Oven vents discharge *away* from the kitchen wall, which means that the



With a modern gas range, Madam, no smoke, no smear, no smudge.

discoloration which used to appear on the wall above the vent has been eliminated.

(This discoloration, by the way, is caused by the dust particles which are always present in the air of the cleanest kitchens. Agitated by heat from cooking, these particles attain a high velocity, hurling themselves against the wall surface with such force that they adhere to it. The resultant discoloration will appear on the walls of any kitchen, no matter what kind of fuel is used in cooking. It is caused by heat and dust in the vapor-laden atmosphere of the kitchen, and the inherent characteristics of either a gas flame or an electric "glow" has nothing to do with it.)

Gas burners, having an infinite number of speeds, can be controlled with the utmost precision, which enables the cook to avoid boil-overs

and prevent excessive steam and greasy vapors from filling the kitchen. Gas broiling is completely smokeless, the *live* flame consuming the sooty particles of fat as they are given off from the meat.

"Electric cookery is cooler than gas cookery."

Here is another claim you are almost sure to encounter from an electric-minded person. The answer again is in the facts.

In the A.G.A. Testing Laboratory comparative tests mentioned above the following results were obtained:

An average temperature only 45° F. above room temperature was maintained on the outside oven surface of a CP gas range with all top burners on full and with a temperature of 500° F. being maintained inside the oven. The average surface temperature above room temperature of the electric range was nearly 58° F. under similar conditions but with the oven temperature set at 400° F. Such results speak for themselves.

And in these same tests, the gas range oven reached maximum heat in the oven in nearly *half* the time required for the electric oven, which means less cooking time and thus less heat expelled into the kitchen!

Gas burner top burner cookery, too, is necessarily cooler than electric top cookery, because:

1. The utensils cover the entire burner and thus absorb all the heat. The electric element is larger than the average utensil.

2. The burner on a gas range is on full instantly, and the heat is

gone the moment the burner is turned off. An electric element requires time to heat up and time to cool off.

3. The infinite number of speeds and accuracy of control of a gas burner enables the cook to eliminate steam from the kitchen. Electric cookery, with its limited number of speeds, makes it practically impossible to prevent violent boiling.

In modern gas cookery, much cooking (notably the roasting of meats) is done at low temperatures. Obviously this contributes toward *cool* gas cookery. Similarly, accurate oven temperature control allows the baking of pies, cakes and cookies by the clock, which means that the oven door needs never to be opened between the time the pastry is inserted and the time the clock says it's done. The heat thus stays in the oven, and does not escape into the kitchen as it did when the cook had to peek and poke to see if her product was done. Perfect heat circulation, too, in the gas range oven eliminates the necessity of moving sections of a layer cake, say, from shelf to shelf so that they will be done evenly.

And here is where gas cookery is again superior to electric cookery! For due to the kind of heat used in an electric oven, the circulation is faulty and cakes *do not* rise and brown evenly unless shifted around!

"Electric cookery is as cheap or cheaper than gas cookery," is a third claim frequently made by electric

enthusiasts. It is one of the easiest to refute.

First of all, the purchase price of an electric range runs from 25% to 100% more than the purchase price of a gas range. You would have to pay from \$150 to \$175 for an electric range in order to secure the cooking capacity and features that are available on a \$100 gas range. In a recent demonstration in Santa Monica, Calif., a gas range which retails for \$104.50 was matched against an electric range valued at \$210, and the gas range proved its superiority all along the line. As a matter of fact, the difference between the initial cost of a gas range and electric range would pay for between a year and two years of gas service in the ordinary household.

Moreover, there is a big item of economy in favor of the gas range in the matter of maintenance cost. A gas burner operates as efficiently at the end of its millionth hour of usage as it did at the beginning of its first. One gas range manufacturer guarantees the burner for the life of the gas range. An electric element, on the contrary, begins to wear out the minute it is turned on, and, like an electric light globe, the more it is used the less efficient it becomes, requiring more and more energy to do the same amount of work until it fails altogether. To insure maximum efficiency an electric element must be replaced at regular intervals.

Installation cost, too, must not be overlooked. In a house not already wired for electric cooking,

the cost of installing an outlet for the range amounts to from \$30 to \$40. It would be difficult to find a house that is not piped for gas cooking.

Insofar as operating costs are concerned, all tests conducted by unbiased laboratories show that gas cookery costs, based on average rates over the nation, are approximately one-third of electric cookery when manufactured gas is used, and one-tenth when natural gas is used.

Operating costs of the two services can be compared only on the basis of the unit cost of gas and electricity in any locality.

In addition, tests show that electric cookery is most efficient when special pans are used, while the size, shape or color of a pan makes no difference in the cost of operation of a gas range. The length of time required for an electric burner to warm up and cool off increases the cost of cooking when compared with gas which operates instantly.

"Electric cookery is simpler than gas cookery."

This claim, a favorite one with those who have never cooked on a modern gas range, has no real basis in fact. While automatic time and temperature controls, automatic ignition and other convenience features are common to both types of range, in the operation of them the user finds those on the gas range simpler and less time-consuming.

In top burner cookery, for instance, instant ignition and perfect control of a limitless number of speeds reduces the time and atten-

tion required in any cooking operation. As an illustration, the frying of hot cakes on an electric range is made very difficult due to the fact that the limited number of temperatures available have to be constantly adjusted to secure even an approximation of the correct heat; while the exact temperature needed can easily be secured and maintained on a gas range. The electric people, too, advocate using "stored heat," meaning the after-glow of the element as it cools off, and certainly an effective use of this otherwise wasted energy would not add to the simplicity of top cookery.

Oven cookery is simpler and more effective on the gas range than it is on the electric range because the gas temperature control is of the continuous type, insuring a smooth, even maintenance of the required temperature in the oven; while the electric control is of the "stop" and "go" type, allowing a variation above and below the temperature set averaging from 18° to 25°. Imperfect circulation in the electric oven necessitates constant watching of pastries, for instance, while they are baking; whereas the perfect circulation of the gas range oven makes cooking by the clock the rule rather than the exception.

The speed of the gas burner and the fact that it is smokeless makes gas broiling much simpler than electric broiling. More and more gas users are employing this simple, healthful method of cooking for all sorts of foods including meats, vegetables and fruits. The

difficulty and time required to broil properly on an electric range prohibits anywhere near as effective broiling as with gas.

And the dependability of gas service as compared with electric service must be mentioned in comparing the simplicity of the two. Interruption of the gas supply is an almost unheard-of thing. Interruption of electric service is a very common occurrence, as anyone who thinks back over the matter can himself testify. Having to wait for the resumption of service or find a substitute way of preparing meals certainly does not add to the simplicity of life in a household.

So to the assertion that "Electric cookery is simpler than gas cookery" these facts may be cited to prove the contrary.

In conclusion, it is a nationally accepted fact that the modern housewife, who insists upon the latest and most approved methods and equipment for preparing her family's meals, inevitably seeks out the modern gas range. Since its creation and acceptance in the several years past, there is no cooking appliance that has more modern features than the Certified Performance gas range. And the increased acceptance of the gas over the electric range is not only proof of the modernity of the gas range, but also of the fact that Mr. and Mrs. American Public want in their home only the most modern cooking equipment. What further proof of this last statement is there than the fact that sixteen million modern American families are "cooking with gas!"

Florida Town Plant Reaches Beyond Mains for New Business

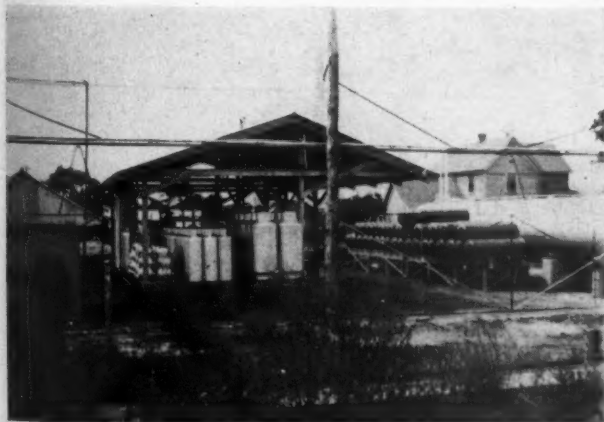
An example of a manufactured gas utility serving homes beyond its mains with liquefied petroleum gas is found in the operations of the Southern Gas & Electric Corp., of Bradenton, Fla.

This company, of which W. L. Adams is president, is now supplying manufactured gas to Bradenton, Sarasota, Manatee and Palmetto, Fla., and during its 14 years since starting in business has laid more than 80 miles of underground mains through the more densely populated areas of the towns named. Possibly 50% of all homes are thus reached, according to Paul S. Hughes, speaking for the company, and new mains are being extended regularly.

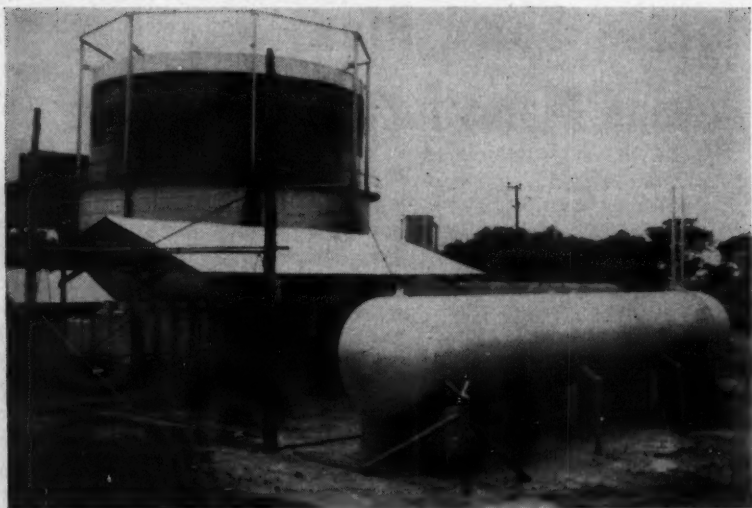
However, there are important

adjacent districts which are not served with city gas and these will now be offered bottled gas and underground tank gas service, the former in 100 and 420 pound cylinders, and the latter in 125 and 160 gallon tanks on a metered basis. The same rate is used as for manufactured gas so that in the event of later extending the mains to these LP-Gas users, readjustments will not have to be made for the consumers.

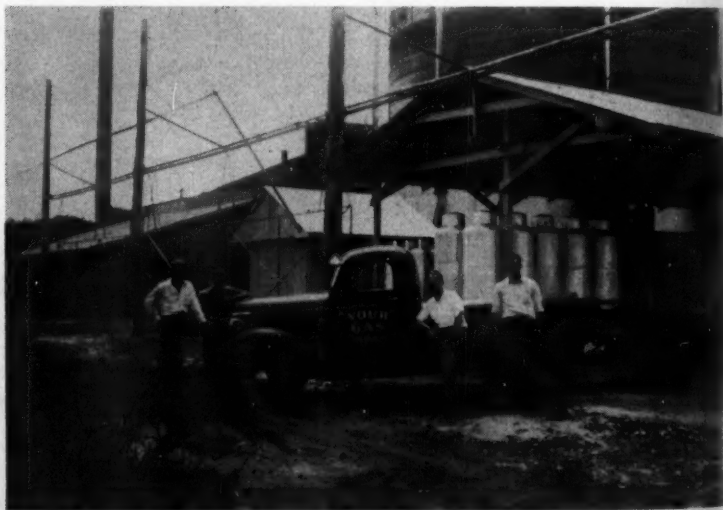
Preparations for widening the field of operation were started last June when materials and equipment were ordered. The LP-Gas plant is built on property adjoining the existing manufactured gas plant. The tank is an 18,000-gal. propane job built by the Hamler Boiler &



◆
Filling and loading
dock, with pump
house on left.
◆



An overall view of tank, loading and filling plant, with background of the manufactured gas holder of the Southern Gas & Electric Corp., Bradenton, Fla.



One of the fleet of company service trucks in plant yard. Sitting on meter rack on running board (second from right) is Paul S. Hughes. Leaning against rear fender is Joe Stark, engineer. The other two are specially trained installation men.

Tank Co., Chicago. The filling station is open all around except for an enclosed portion to protect the scales from the weather. This is also the loading dock and has been arranged so that empties are taken in at the rear, filled and rolled to the front where they can be readily loaded into the delivery trucks from conveniently located tank racks. All cylinders and tanks are supplied by the Pressed Steel Tank Co., of Milwaukee, and are equipped with Bastian-Blessing valves throughout. Also, the tank truck easily may be backed into the dock and filled while under cover. The pump house is separate and contains explosion-proof motor, lamps, switches, etc. The appliance storerooms are in a third building.

A tank truck with a 1000-gal. tank is now being built. It will have tool and hose compartments on the side. A special fuel tank and carburetor will permit using either propane or high test gasoline for power.

The "cash and carry" and cylinder service is being handled on the usual bottled gas basis, and metered systems are installed only when two or more major appliances are to be used.

Cypress Poles Serve Many Purposes

Heavy cypress poles are used within the plant grounds to carry the unloading and return pipe line, the electric wiring, the water line and serve as fence posts. Due to local soil conditions the pipe line was placed overhead, and the height of the poles also permits hanging the yard gates from them, and thus they are slid completely

out of the way when maneuvering trucks in and out of the dock or warehouse. All gates are built out of black pipe with welded corners and bracing ties.

The first gas was unloaded about Sept. 20, sales meetings have been held and plans laid for extending this new service beyond the present limitations of the old town plant and its mains.



B. G. Symon Heads Shell Oil's Technical Products Department

Benjamin G. Symon, formerly of St. Louis, has been made manager of the Shell Oil Co.'s technical products department, Alexander Fraser, president, announced today. He will be in complete charge of all sales east of the Rockies of naphthas, solvents and other petroleum products for chemical, technical and household use.

Mr. Symon's appointment is part of a move combining Shell's eastern and mid-western marketing and producing units. Executive offices have been centralized in the R.C.A. building, New York, with 12 division offices in Boston, Albany, Baltimore, New York City, Cleveland, Detroit, Chicago, Minneapolis, St. Louis, Indianapolis, Nashville, and Atlanta.

Mr. Symon has been with the Shell company for over 12 years, holding important managerial positions in St. Louis and New Orleans before his recent appointment to the New York office.

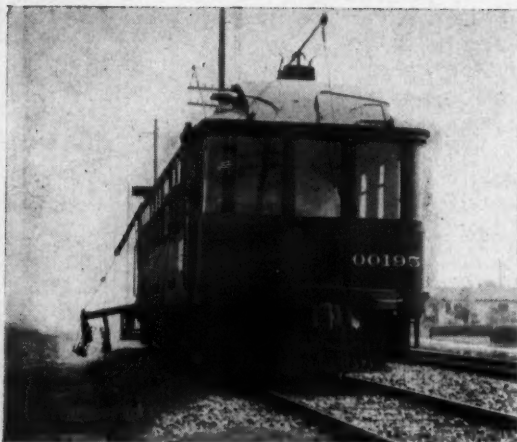


New Appliance Shop Opened In Bridgeport, Nebraska

J. W. Collyer recently opened an appliance shop in Bridgeport, Neb. The Collyer Appliance Shop will carry bottled gas ranges as well as other gas appliances.

Weed B

Butane Cleans the R



Pacific Electric Railway Co. weed burning unit on right-of-way near Los Angeles. Burners, mounted on an all-position boom, are shown extending from car. Burning width, when booms are extended on both sides, is 30 ft.

W EED irradiation along a right-of-way has always been a problem for railroads throughout the country.

In July, 1939, a series of tests for a new weed-burning method were conducted by the Crook Co.*, with the cooperation of E. C. Johnson of the Pacific Electric Railway. A handcar was obtained to mount the necessary equipment, which included a 320-gal. butane storage tank and five 12-in. liquid butane burners. This equipment was towed over the rails by a small gasoline propelled car at varying speeds to determine the correct burning speeds necessary to completely eliminate weed growth.

After three months of research and testing, all necessary data was obtained for the construction of a permanent weed burner.

* Crook Co., Los Angeles, LP-Gas engineers, distribute Bu-Gas (Standard Oil Co. of California butane) in Southern California.

Using a passenger car of the 800 class A series, all seats and partitions were removed and one end was rearranged, the motor controls being installed on the side of the car. Changes were made in the motor control system to obtain the slow speeds necessary for correct burning, but still retain the high speeds for traveling to and from the job.

Special Mounting in Car

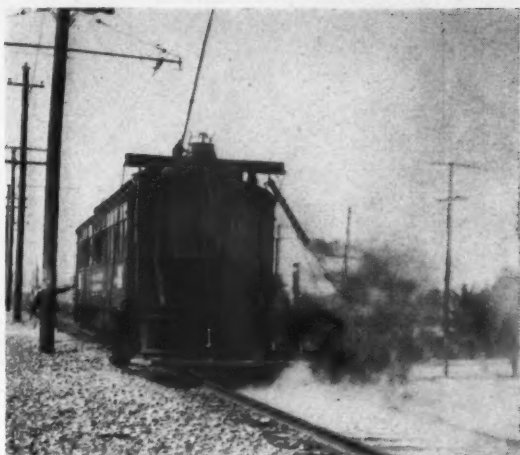
Special cradles were constructed to mount the American Pipe & Steel Corp. 2000-gal. net capacity butane storage tank inside the car. This was a specially designed 150-lb. working pressure tank with baffles and an automatic filling valve, having a manual control to each end of the car, in conjunction with fusible links. After installation the tank was lagged according to instructions received from the Railroad Commission.

eed Burning

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Rear end of car, showing stationary burners and one extension burner in operation. Flame belching from burners creates a spectacular fire and attracts a great deal of attention wherever the car operates.



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Seven 12-in. burners were used instead of the five used on the test car. These were mounted in two rows of four and three on a hinged structure projecting from the end of the car and raised and lowered by air controls on the operators platform.

These controls are only in use when travelling to and from the job. When burning, the structure is lowered to its extremity, at which point the burners are approximately 10 inches above the ground. This whole unit is hooded to form an oven and gives complete burning coverage up to 12 feet in width.

How the Set-Up Was Made

A 2-in. liquid line was run from the storage tank to the control platform. From this point individual $\frac{3}{4}$ -in. lines to each of the seven burners were installed in conjunction with three valves. One valve

By **GEORGE BRERETON**

Engineer, Crook Co., Los Angeles

controls the center set of three burners and the other valves control the outside set of two burners each. A main shut-off valve was inserted in the 2-inch line to control all burning operations.

A $\frac{3}{4}$ -in. line from the vapor space in the tank through a pressure regulator provides gas for the pilots, which are lit before leaving the shops. Enough heat is generated from the pilots to warm up the vaporizing compartment of the burners to sufficient temperatures so that full pressure of liquid butane can be applied upon arrival at the field of operations.

For burning to right and left of the car an all-position boom was mounted on each side carrying an 8-in. liquid butane burner. The vertical lift is controlled with air, and the horizontal movement with

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Closeup of burners in operation. Only one extended burner is in use. The oven-burner has been lowered close to tracks. As most of growth is at side of tracks, more smoke is caused by side burners. As car moves forward at slow speed, burners eradicate all weeds along tracks.

a steering gear device. When extended, these have a burning width of 30 feet and when not in use fold back into the main structure.

One Man Handles Controls

All burning controls are operated by one man on the rear platform who signals the motorman regarding necessary speeds. These speeds will vary with the thickness of the weed growth, usually from two to four miles an hour. Burning pressures range between 45 and 55 lbs. per sq. in. This high pressure must be maintained to force the flame into the growth. Two passes are necessary for complete coverage, with a minimum of seven days between each burning.

The first burning does not necessarily kill the weeds, but on the

more stubborn growths the flame has a tendency to speed up the life cycle. As the flame comes into contact with the plant the leaves turn from brown to bright green and then wilt over. During the second operation they will burn completely.

This butane weed burner was first put into operation in February, 1940, and during its first season has proven itself very satisfactory. It is cleaner, more efficient, more economical than formerly used methods, and, what is most remarkable, no mechanical equipment is required to complete the cycle from the storage tank to burner.

More than 65,000 gals. of Standard Oil Co. Bu-Gas has been used since the car was put into operation. The burners consume from

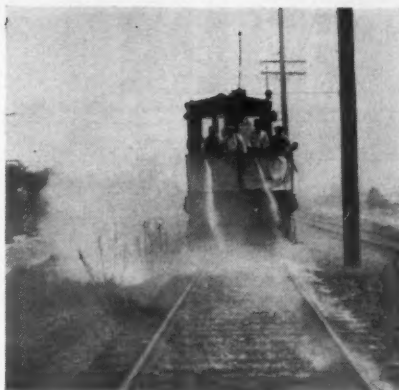
500 to 800 gals. a day, depending on the number of hours the equipment is in operation. As the car operates on main lines, where traffic is often heavy, the crew must time the work so the line is open to passenger trains. Crew members report that they average five and one-half hours actual working time, covering 12 to 16 miles a day.

It's a "gentleman's job" now, they say. In the past, when diesel oil was used, the crew would be covered with soot and grease at the end of the day. With butane in use, there is little smoke and such as results is much cleaner. And it's easier on the public, too, according to report. In the past, many a housewife saw her laundry besmudged as the weed burner moved down the line.

Another important part of the



More than 500 gals. of butane are used each day from this 200 gal. storage tank, mounted on special cradles in weed burning car.



Smoking ties and weeds are extinguished by crew on water car that follows immediately behind weed burner. This is necessary in order to safeguard public and company property. Second burning, a few days later, leaves right-of-way clean of weeds.

weed burning job is the work of the water car. Each time the burner passes over the tracks a second crew must follow to sprinkle the ties and smoking weeds. This is a necessary safety precaution to protect the public and railroad company. With butane, however, the crew finds that the danger is not as great nor is the work as difficult. When heavier fuel was used there was always a part of the oil that did not ignite and would run down into the cracks of the ties. Thus, the ties actually caught on fire and burned until put out by the workers on the water car.

Since butane has been used as a fuel, workmen report that there is little or no burning of ties, as there is no waste fuel and it is impossible for the ties to burn for any length of time.

SELLING

The Only Known Way

We know of only one man in the world who can get another person to do something by simply demanding it of him. He is a high-wayman! And his life is precarious. Moreover, he is bound to fail eventually, as statistics show.

The only known method that works consistently in getting people to do something is to make them *want* to do it.

As a salesman, you get business by talking advantage — personal gain, quality, service, performance. By this method, you make the housewife want to give you the order because you have convinced her that nowhere else can she get exactly what you offer or so much of it. Too, you have probably created in her the desire to want to favor you.

But under no circumstances will you get an order from one who happens to dislike you. The buyer can be indifferent to you and you can still get business on the merits of your product, but if she grows to dislike you for any reason, it's fatal.

These truths are not new but they are being preached today by the sages of selling as never before. And perhaps they explain why some men who make their living selling can own their own homes, drive fine automobiles, send

their children to college and join all the local clubs, when the other fellow who is apparently just as smart and works even harder finds it difficult to make ends meet.

Yes! They have become masters of the art of causing people to like them, or at least of avoiding their dislike. So, it's not just the things "in the book" that count . . . it's doing the things not in the book as well.

Friendship Leads to Sales

The paramount requisite of a good salesman is to be genuinely and honestly liked and respected; therefore, to be a more successful salesman you must be more successful in making friends.

In the first place, to make friends is to be personally agreeable. To make friends you must love associating with others and if you enjoy being with people you will naturally be self-confident and radiate good cheer. A noted professor once said that all the world loves a college student. Possibly it is because college students are cheerful and confident, or as Emerson would put it, have a "charm of manner."

If you find it hard to "radiate" when your tongue feels like an army had walked over it in dry stocking feet, and your head splits and throbs like it was a spacious aching tooth, follow a few good, simple health rules. Eat the right foods, exercise enough and go home from the party before that "last" drink. Good dispositions are made — not inherited. Good health promotes good dispositions.

If your name happens to be

DOTTED LINE ROSCOE... by Bob Crosby



"It's my own idea, Boss—First I get 'em in the mood!"

Jones—believe in Jones, because if you do, other people will believe in Jones, too.

Practice the Golden Rule in selling and believe that selling is a fine art. It has been said that art is not a thing—art is a way. It is the affable, courteous, effective way!

A Sales Hint

Too many salesmen proceed on the faulty conclusion that once a prospect buys she becomes a customer and will remain a customer without further attention. But this conclusion is seldom verified by customer behavior.

If an appliance has not been adjusted properly or if the customer has not been shown how to operate it for maximum efficiency, these things she will attribute to failure of the appliance. If you do not check back, not only will you lose the chance of future sales, but engender in your own back yard a disgruntled customer. By your shortcomings, you'll help to bring to fruition a customer for your competitor.

Don't pass up your old customers too often. They can give you or help you get plenty of new ones.

Get Off "Self-Center"

Have you ever watched a salesman hang up an outstanding record—and then wondered what the winner "had on the ball?" The ability to make people like him was one of the answers.

The successful salesman takes a sincere interest in the needs of his

prospects and customers. He shows an interest in their families, their pets, their cars, their recreations, their hobbies—and in all the seemingly little things which are so very important to these families and which make up their lives. He is pleasant, kind, thoughtful and considerate of others. He knows this will pay him big returns in sales, because both prospects and customers will grow to like him and want to do business with him. He is definitely off "self-center!"

Learn to make people like you and watch your sales increase by leaps and bounds.

The Old Stall

When a prospect says he thinks he'll wait, look around, decide later, or uses some other time-honored excuse, ask him "Why?"—and then wait for his answer.

It is surprising to see how often objections melt away when a prospect has to furnish the answers himself. And with the reason for the objection known, you are in an excellent position to determine what steps must be taken to eliminate the objection. You have found the stumbling block that is holding up the sale.

The prospect's answers to this little question "Why?" will give you your sales cues and enable you to effectively marshal all the facts necessary to overcome the objections. Ask "Why?" often—as a stepping stone to the successful conclusion of many sales.—*From sales letter of Philgas Department, Phillips Petroleum Co.*

PLAY SAFE! BE SURE!

Install EMCO **IRON** METERS



IN the interests of safety when handling LPG the use of a meter having a cast iron outer case should be dictated. The tin case meter, admirably suited to the measurement of manufactured gas, served by low pressure mains, is a definite hazard on butane-propane services. Soldered joints and exposed areas of relatively thin metal have no place on the lines of an industry whose future depends on observing every safety precaution.

It should be remembered, however, that all iron meters are not alike. The

EMCO Butane-Propane Vapor Meter has been especially designed for this service. It has no side plates, hence there are only two relatively short sealing surfaces. These are surface ground and sealed by especially developed gaskets and a generous number of large diameter screws. Double protection against leakage through the index box is afforded by use of a soldered index box glass plus a lubricated seal around the index drive shaft.

The entire story on this meter is given in Bulletin 1063. Write for a copy.

PITTSBURGH EQUITABLE METER COMPANY MERCO NORDSTROM VALVE CO.

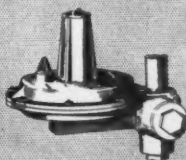
NEW YORK - BUFFALO - PHILADELPHIA
KANSAS CITY - TULSA - LOS ANGELES Main Offices - PITTSBURGH, PA. DES MOINES - CHICAGO - COLUMBIA
MEMPHIS - OAKLAND - HOUSTON



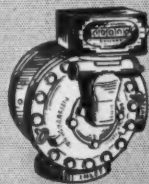
EMCO
Butane-Propane
Vapor Meter



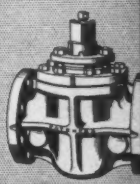
EMCO
Large Capacity
Pressed Steel
Gas Meter



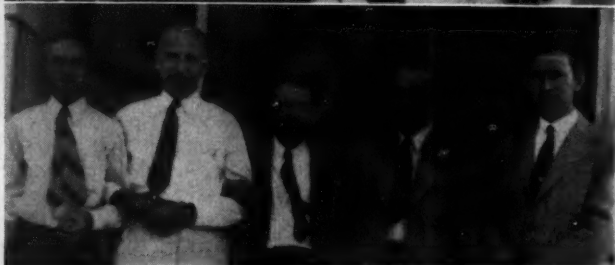
EMCO Type "E"
Ejector Service
Regulator



PITTSBURGH
MOTORCYCLE Meter
for Liquid Butane
or Propane



NORDSTROM
Lubricated
Valve



Among the many (left to right) TOP—Rayford Conway, Orlando; Reed Whittle, Sarasota; Bob McAllister, Orlando, all in Florida; Tom Webster, Tappan Stove Co., Mansfield, Ohio. CENTER—W. L. Plummer, Geo. D. Roper Corp.; Gene McDonald, New York; J. B. Green, president Green's Fuel, Inc., Sarasota, Fla., and R. C. Bon Seigneur, Evansville, Ind. BOTTOM—C. R. Anderson and E. S. Lanning, St. Petersburg; F. A. Harrison, Bradenton; John Keeth, Plant City; Walter Moody, Fort Myers, Fla.

Green's Fuel Dealers Meet

More than 150 LP-Gas men, including 26 distributors of Green's Fuel from three southeastern states, salesmen and officers of these retail outlets, and suppliers and manufacturers from many sections of the Nation, met in Sarasota, Fla., Nov. 1-2 in annual convention. Arrangements for the program and banquet which closed the meeting were under the personal direction of K. H. Koach, vice president and general manager of Green's Fuel, Inc. The convention was held in the company's newly built offices and

showrooms on the Tamiami Trail.

Among the speakers were: A. M. Stevens and Middleton DeCamp, Standard Oil Co.; Tom Griffith, Griffith Advertising Co.; C. V. McConnell, Tappan Stove Co.; Ellsworth Mills, The Bastian-Blessing Co.; G. M. Rhode, Ruud Manufacturing Co.; F. K. Woodring, Pennsylvania Furnace & Iron Co.; W. L. Plummer, George D. Roper Corp.; Amos Mears, Servel, Inc.; G. J. Kollock, Peerless Manufacturing Co., and A. G. Wuertz, Ralph M. Brodie Co., Inc.



Thanks to HYDRO-GAS

the pioneer underground liquefied petroleum gas system, there will be a warm Christmas in thousands of homes throughout the land. The patented vaporizer and re-vaporizer, necessary in recovering heat losses and for re-vaporizing any condensation occurring in the service line are exclusive Hydro-Gas features that assure a safe, uninterrupted, dependable gas supply at low temperatures.

SOUTHERN STEEL CO.



SAN ANTONIO, TEXAS

Registered

U. S. Pat. Off.

SYSTEM

RANSOME BUTANE VAPORIZER



The Ransome Butane Vaporizer was designed specifically to give the farmer and suburban home owner the advantage and economy of above ground storage for liquefied gas.

For proper combustion at the burner, liquefied gases must be vaporized. During summer temperatures, with storage above ground, both butane and propane will vaporize of themselves.

The Ransome Vaporizer permits above ground tankage, obviates excavating and resultant corrosion of an underground tank.

It converts liquid butane into a combustible vapor regardless of outside temperatures. If located in an area subject to freezing weather—here is your answer to stable butane combustion. The model illustrated is for domestic use—larger models available for commercial and industrial purposes.

We are prepared to design and install industrial butane standby plants, public service gas plants, as well as automotive and statonary engine conversions. Your inquiries are solicited.

RANSOME COMPANY

Manufacturers of Forster Torches and Burners

4030 HOLLIS STREET

EMERYVILLE, CALIF.

RANSOME

Mercury Freezing Test of N. G. A. A.

THE MERCURY freezing test for determination of the nature and extent of contamination of commercial propane with heavier hydrocarbon is as follows:

Scope

1. This method is intended for the determination of the nature and extent of the contamination of commercial propane with higher boiling hydrocarbon materials.

Apparatus

2. The apparatus shall consist of the following:

(a) *Graduate*. The graduate shall be of the cylindrical type, of uniform diameter, with a pressed or molded base and a lipped top. The cylinder shall be graduated to contain 100 ml., and the graduated portion shall be not less than 7 inches (17.78 cm.) nor more than 8 inches (20.32 cm.) long. It shall be graduated in single milliliters and each fifth mark shall be distinguished by a longer line. It shall be numbered from the bottom up at intervals of 10 ml. The overall height of the graduate shall be not less than 9¼ inches (24.8 cm.) nor more than 10¼ inches (26.0 cm.). The graduations shall not be in error by more than 1 ml. at any point.

(b) *Mercury*. The mercury shall be free from oil and foreign matter. The necessary amount (0.5 cm.) shall be determined by means of a small cylinder graduated in 0.1 milliliters.

Procedure

3. The graduate shall be thoroughly rinsed and chilled in the product to be tested prior to the actual sampling. The mercury (0.5 ml.) shall be added to the chilled graduate at this point together

● The Natural Gasoline Association of America has published its revisions of specifications and test methods for liquefied petroleum gases that serves as a guide to members and a large portion of the industry. The specifications were printed in the July, 1940, issue of BUTANE-PROPANE News, (page 23). Here is quoted one of the tests that has been approved.—Editor.

with one or two grains of charcoal. The graduate shall next be filled up to the 100 milliliter mark with the sample to be tested, ample precautions being taken to avoid losses by evaporation.

(a) The contents of the graduate shall then be allowed to weather away slowly down to a point where approximately fifty per cent of the original volume remains. This weathering shall be conducted with no outside application of heat in any form. The condition of the mercury shall be ascertained when fifty per cent of the original volume remains by grasping the top of the graduate and shaking. (A pronounced metallic "ring" will result if the mercury is in a solidified condition.)

(b) The latter part of the weathering operation shall be carried on with continuous shaking, the graduate being held in the manner previously described. The continued metallic "ring" shall be taken to indicate the condition of the mercury. No attempts shall be made to accelerate the weathering operation either by removing the accumulated frost on the outside of the graduate or by the external application of heat in any form.

(c) The point at which the mercury commences to melt (indicated

by a dull thud as compared with the metallic "ring") shall be noted and the actual volume of hydrocarbon liquid remaining at this point shall be recorded as the residue.

Interpretation of Results

4. The observations may be converted to terms of "butane contamination" by means of the following table:

Hydrocarbon Residue at Melting Point	Butane Contamination
0.0 ml.	0.0% by volume
1.0	0.7
2.0	1.3
3.0	1.7
4.0	2.2
5.0	2.6
6.0	2.9

Hitler Says, "Use More LP-Gas!"

Considerable progress has been achieved in recent times in Germany in converting automotive vehicles from consumption of liquid (gasoline and diesel oil) to liquid gas (mixtures of propane and butane) motor fuel. About 40,000 automotive vehicles are now operating on liquid gas fuel and it is planned to augment the number to 100,000 in the not-remote future.

Although the use of liquid gas motor fuel has been given a considerable impetus by wartime conditions, which created obstacles in the importation of foreign motor fuels, it is planned to place the use of this newer type of motor fuel upon a permanent basis upon a large scale for taking up all the available domestic production.

To speed up the use of liquid-gas motor fuel, the German government has decreed that all motor trucks of over 1½ ton capacity now operating upon gasoline fuel must be converted to consume liquid gas. It would appear that all trucks using diesel oil may continue upon this fuel. Although passenger cars are not officially required to use liquid gas, it has been observed that numbers of passenger cars nevertheless are now using liquid gas fuel, presumably due

- In Germany's need for economizing in the use of all forms of petroleum products, it is only natural that LP-Gas should be playing an important part.

The United States Bureau of Mines, interested in the applications of this fuel by other nations as well as our own, has obtained a first hand report on ways in which butane and propane are contributing to Germany's automotive problems from American Consul Sidney B. Redecker. Part of that survey forms the accompanying article.—Editor.

to the rigorous wartime consumption-rationing restrictions upon gasoline and the lesser difficulty of procuring supplies of liquid gas.

The extensive use of liquid gas motor fuel has involved the satisfactory solutions of two problems, namely, development of suitable cylinders for containing the gas as carried by the automotive vehicles, and establishment of tank stations for supplying the liquid gas. After much research work, a new type of cylinder container has been developed which offers considerable technical advantages, such as light weight, size, shape, safety, etc., and this type has been rendered standard.



NOW READY FOR L.P.G. SALESMEN

Here's a brand new assistant for every L. P. G. heating salesman. The new Bryant Salesman's Kit gives you at your finger tips all the information you need to make more gas heating equipment sales.

Illustrated pages that show the advantages and economies of gas heat. Loose-leaf equipment sheets that you can find in a jiffy. The complete "Comfort Heating" Manual prepared by the American Gas Association. Altogether, 258 pages of real selling help, all wrapped up in a handy zipper leather case. Easy to carry, easy to use.

Ask your Bryant distributor to show you this Kit. Try it. You'll find it the finest helper for gas heating salesmen that you ever saw. When properly used, it can't fail to produce more equipment business and help you sell more L. P. G.

The BRYANT HEATER Co.

17825 St. Clair Avenue

Cleveland, Ohio



DECEMBER-1940

51

Butane Exhibits Hold Attention Of Trucking Ass'n. Members

An event of interest to the automotive world took place during November when the American Trucking Associations, Inc., held their Seventh Annual Convention in Los Angeles.

Among the several LP-Gas exhibits, showing the latest equipment available for butane truck conversions, were displays by the American Liquid Gas Corp., of Los Angeles, and the Ensign Carburetor Co., of Huntington Park, Calif.

A great deal of interest in LP-Gas was shown by visiting delegates from every section of the country.

Northern California Firemen Study Safety of LP-Gas

Eighty-five firemen from all parts of Marin county, Calif., attended the regular monthly meeting of the Marin County Association of Fire Departments held in Fairfax, Calif., Oct. 18.

Regular order of business was postponed to hear a talk on butane and propane gases and their safe handling by A. C. Maynard of the Shell Oil Co., Inc., San Francisco.

This was another meeting of California fire chiefs devoted to the study of LP-Gases so that firemen and civilians alike may become more familiar with the safest methods of handling and storing the gas.

Fire Chief Henry Vonderheide, of Fairfax, and his men were hosts. Past President George W. Hall presided over the meeting, which was attended by firemen from Mill Valley, San Rafael and Madera, Calif.

New Texas Butane Company

The Border Butane and Oil Co., El Paso, Texas, was recently granted a charter. Incorporators are: Forrest Sackett, R. H. Dwigans, Bernice Sackett and A. W. Dwigans. Capital stock is \$2000.



The appliance division of the Rheem Manufacturing Co. held its annual sales meeting in Chicago on Oct. 14-16, presided over by R. E. James, general manager of that division, who outlined a comprehensive jobber sales program for the coming year. Sales representatives (shown above) from all of the company's plants now manufacturing appliances were in attendance.

FLORENCE GIVES YOU FEATURES THAT SELL IN THE BIG LPG MARKET!

Look at the glass in the oven door of this Florence LPG Range. It's a feature your prospective customers will appreciate at a glance . . . because it's practical; they can see how it makes cooking easier!

This is still another example of the way Florence features help you to sell both ranges and LPG service. Remember, too, that Florence features build the sort of satisfaction that means continuing LPG loads for you.

Whatever your customer's need or budget, you can meet it exactly with a Florence LPG Range . . . in luxurious models like this one; full-featured, moderate-priced ranges; or promotion models that give outstanding value. Florence builds a really *complete* line for you. Mail the coupon today!



FLORENCE STOVE COMPANY

General Offices and Plant, Gardner, Mass.; Western Offices and Plant, Kankakee, Ill.; Sales Offices: 1458 Merchandise Mart, Chicago; 45 E. 17th Street, New York; 53 Alabama Street, S.W., Atlanta; 301 N. Market Street, Dallas; and 2730 16th Street, San Francisco.



FLORENCE STOVE COMPANY

Please send me the Florence Gas Range Catalog, prices, and full information about the liberal Florence Promotion Plan for Dealers.

Name

Address

FLORENCE

Gas Ranges

FOR LIQUEFIED PETROLEUM GAS

DECEMBER-1940

Butane-Air Mix Goes Into Rhinelander, Wis., Mains

The Oneida Gas Co. started distributing a new type of gas in its service mains in Rhinelander, Wis., marking the climax of an extensive remodeling project at the company's plant. The new gas is a mixture which is replacing manufactured water-gas.

All appliances in the city have been converted to use the new mixture, and as soon as the new gas has been completely distributed through the system, a final adjustment and check of appliances will be made.

California I. A. C. Meets Dec. 12 To Consider Final Code Changes

The final draft of the proposed liquefied petroleum gas safety orders of the California Industrial Accident Commission (except those applying to definitions, piping and safety relief areas) has been prepared and mailed out to the industry for its further consideration and recommen-

dations. All suggested changes should be made in writing.

The next meeting of the Commission will open at Fresno, Calif., on Dec. 10 (2 P. M.) and continue through the next two days in the Pacific Southwest Bldg.

The Commission is anxious to complete the revision of the orders so that they may the more quickly be put into effect.

Rex Stonestreet New Manager Of Spofford Gas Company

Rex Stonestreet, manager of the J. C. Gordy appliance store in New Ibera, La., was recently appointed manager of the Spofford Gas Co., Crowley, La., according to an announcement from W. A. Spofford.

Mr. Stonestreet has been 14 years in the appliance business and was connected with Servel, Inc., for seven years.

The Spofford Gas Co. recently reopened in a newly decorated building after having closed due to a flood.



More than 350 dealers and salesmen attended this "Skelgas County Fair" at the Des Moines, Iowa, meeting. The "Fair" was an exhibit that toured the Middle-west, and was described in the November issue of BUTANE-PROPANE News, p. 31.



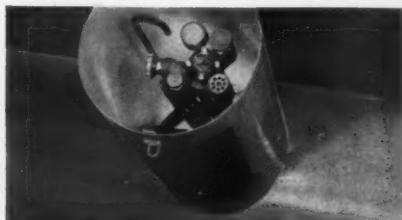
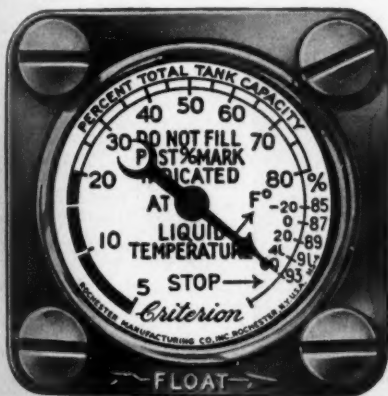
**ELIMINATE
THE POSSIBILITY OF
GAS LEAKAGE...**

**INSTALL THE GAUGE
THAT IS GUARANTEED
LEAK-PROOF! . .**

Because all Rochester Criterion Gauges employ the **MAGNETIC** principle of operation, there is **NO** opening through the Gauge head . . . therefore **NO** possibility of gas fumes or liquid escaping the tank once the Gauge is properly

installed! This safety feature in addition to their reputation for accuracy and dependability as proved in hundreds of installations, have made these Gauges the choice of the leaders in the L. P. Gas industry.

ROCHESTER MFG. CO., Inc.
17 Rockwood St. Rochester, N. Y.



Rochester Criterion Gauge installed on an underground L. P. Gas system of the **SOUTHERN STEEL CO.**, San Antonio, Texas.

MANUFACTURERS!

Specify Rochester Criterion Gauges
on Your L. P. Gas Systems!

ROCHESTER *Criterion*
GAUGES

DECEMBER-1940

**SAFE--
DEPENDABLE**



CASH AND CARRY

Rego No. 2483 Cash and Carry regulator outfit complete with low-pressure hose and an inlet connection designed to fit the Rego No. 2300C Cash and Carry cylinder valve.

This outfit includes Rego No. 2300C regulator to insure constant service pressure.

The wing nut inlet assembly allows for a hand-tight connection to the cylinder valve. No wrench is required.

REGO

**EQUIPMENT FOR
CASH AND CARRY SYSTEMS**

REGO EQUIPMENT FOR CASH AND CARRY



Typical Cash and Carry System mounted in position, equipped with Rego outfit and valves.

Rego Cash and Carry Equipment is Designed to Give Maximum Protection on This Type of System.

Rego No. 2579 cylinder valve incorporates all of the safety and utility features required in Cash and Carry type cylinders. It includes:

Manually operated packless type shut-off valve which operates on the cam and lever principle.

A seal plug which prevents leakage while the cylinder is in storage or transit. A chain attached to the seal plug prevents the inlet valve

from being opened until the seal plug is removed at the time the cylinder is being connected.

A safety relief valve of the well known Rego "Pop" action type allowing for quick discharge of gas to atmosphere in case of over-filling or high pressure due to a fire.

An integral fuse plug for additional protection.

SPECIFY REGO EQUIPMENT FOR YOUR CASH AND CARRY SYSTEMS.



The **BASTIAN-BLESSING Co**

258 E. Ontario St.

Chicago, Ill.

Pioneers in equipment for using and controlling high pressure gases.

New Dispensing Unit Will Serve Fifty Butane-Equipped Trucks

Recently completed for the servicing of a fleet of milk trucks was the butane dispensing unit at the Los Angeles' plant of the Carnation Milk Co. This complete pumping station is equipped with a 6000-gal. underground storage tank. At present there is one dispensing pump in use to service the 50 trucks that have been converted to use butane. (Photo below.)

The present equipment will deliver as high as 30 gals. per minute, if it is desired. All pumping and metering equipment has been mounted on a solid concrete island with a wide concrete apron on both sides.

The underground storage tank is near the loading island. A manhole above the tank is encased with concrete and pipes leading to the pumping equipment run through concrete lined trenches. Pipes are covered with sand. Steel plates are used for surface protection.

Tokheim LP-Gas dispensing and pumping equipment was installed at the station. At present only one pumping and metering unit is in use; however, the system is constructed to allow for the addition of a second

Tokheim pump and meter when it is needed. A butane-propane pump made by the Smith Precision Products Co., of South Pasadena, Calif., is used with the unit. Parkhill-Wade, Los Angeles, made the installation of the dispensing equipment.

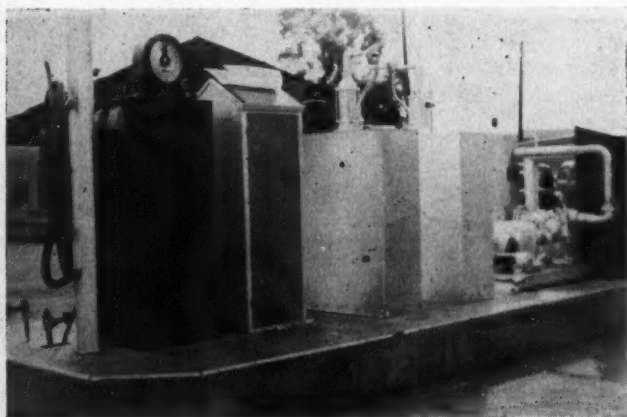
Ventura Butane Corp. Rigs Up for Trucks

P. E. Lynch and Jay Hendricks, (manager) have recently installed a storage tank, a Smith pump and a Tokheim dispensing unit at Jay's Service Station, 240 W. Main st., Ventura, Calif., so as to serve trucks and other equipment with metered butane.

The name of the operating company is the Ventura Butane Corp.

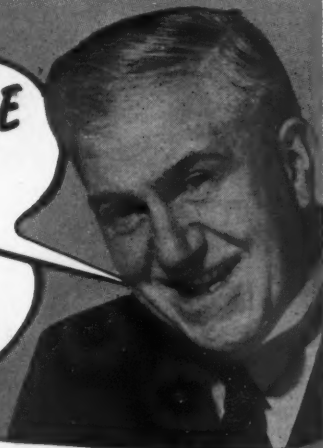
Waco, Texas, Passes Ruling Governing LP-Gas

Waco, Texas, recently passed an ordinance regulating and restricting transportation, storing and installations of LP-Gas and calling for the licensing of trucks and trailers dispensing or hauling such gas within the city limits, according to Bryan Hartigan, city plumbing inspector.



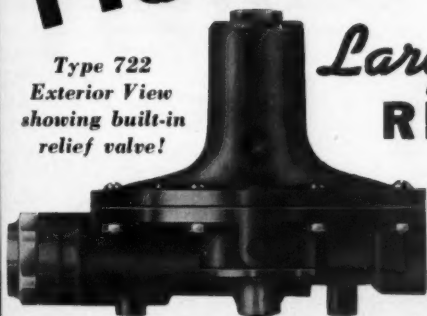
This automotive dispensing unit serves 50 trucks from a 6000-gal. underground tank.

My Choice FOR
DEPENDABLE SERVICE
 ON **LARGE**
CAPACITY
INSTALLATIONS!



FISHER TYPE 722

*Type 722
 Exterior View
 showing built-in
 relief valve!*



Large Capacity
REGULATOR

- Passes 300 cu. ft. and maintains accurate reduced pressures even though tank pressure is only 2 to 5 lbs.
- Gas tightness and greater strength assured by use of high tensile alloy metal.
- Composition valve disc easily renewed. Built-in relief valve an integral part of regulator body.

● Yes, sir! Whenever you have an installation that requires large demand loads, you can be sure that the Fisher Type 722 Regulator will give the most satisfactory service. It will pass 300 cu. ft. per hour at as low a tank pressure as 5 lbs.! That's **REAL** performance!

- Catalog 42-D gives complete details and prices on all Fisher Liquefied Petroleum Gas Regulators and Equipment. Write for your copy today.

FISHER

GOVERNOR COMPANY
OLD FISHER BUILDING
MARSHALLTOWN, IOWA

Seven Salesmen Win Trips To New York World's Fair

Seven salesmen of the Sikeston Sales Co., Sikeston, Mo., and their wives recently won expense-paid trips to the New York World's Fair by meeting the quota set by the Servel Electrolux Co. for bottled gas refrigerators.

The Sikeston Sales Co. is the distributor for 14 counties in southeast Missouri and four counties in southern Illinois.

Those winning trips are: Arthur Hickman, of Puxico; David Keasler, of Paragould; R. W. McClellan, of Sikeston; Theo. Neonnig, of Altenburg; J. D. Stafford, of Portageville; Harry Johnson, of Ironton; and Carl Murley, of Jackson.

Albert F. Cook Retires From A.G.A.E.M. Advertising

Albert F. Cook, advertising manager of the range division of Association of Gas Appliance and Equipment Manufacturers, resigned his position in August on account of ill health.

Prior to joining the A.G.A.E.M.,

Mr. Cook had served for 10 years in the advertising department of the Philgas Department of Phillips Petroleum Co.

American Liquid Gas Corporation Celebrates Eighth Anniversary

Shipments to an expanding market in the South and the Midwest this fall marked the eighth anniversary of the American Liquid Gas Corp., manufacturers of butane carburetion equipment, according to Harold W. Smith, president of the corporation.

The Algas concern was founded in the fall of 1932 by Mr. Smith as a result of the interest he had taken in liquefied gases while an official of a major oil company. In the early days of the business, while desiring to concentrate on carburetion, Algas was forced into many allied lines because the entire butane field at that time was largely unexplored.

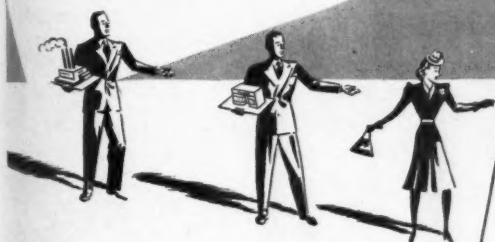
Algas now is able to concentrate on carburetion and is still developing improved equipment in its Los Angeles laboratories. The concern now manufactures carburetors and converters exclusively under the Algas trademark. (Laboratory photo below.)



A shipment of Algas butane converters being checked in the laboratories before being sent to a Midwestern account.

**MANUFACTURER
RETAILER
CONSUMER**

**All 3 factors in distribution
welcome
these 3 advanced
heat control features!**



Robertshaw can always be depended upon to provide improvements which enable gas companies and equipment dealers to prove to the consumer that the best cooking service is gas cooking service.

Are your salesmen armed with this efficient sales manual? It's boosting earnings for thousands of salesmen every working day. Write for a copy—free.



1. GREATER

Simplicity

One motion turns gas on full-sets control. It saves one more operation for the user. Brings gas operating one step closer to complete automatic service.

2. GREATER

Speed

With cock and thermostat dial combined in one unit, user will turn dial fairly high when lighting the oven. The resulting full flow of gas assures quick, safe ignition.

3. GREATER

Accuracy

Each time oven is used, thermostat must be set. Each time oven is turned off, thermostat setting is automatically cancelled. Automatic cooking with gas is made more certain and brought into wider use.



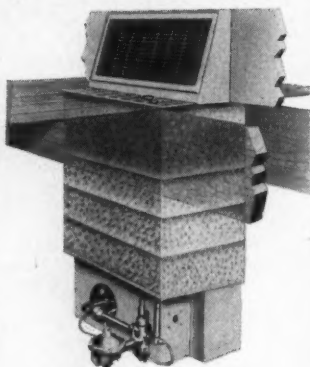
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THERMOSTAT COMPANY

Youngwood, Pennsylvania

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Better!



PACIFIC Floor Furnaces for '41

are better than ever . . . further improved . . . superior performance . . . finer value! Quieter operation, greater structural strength and new interchangeable manual and safety controls are features.

There's big business to be had with these new "Pacific" Pipeless Floor Furnaces for L.P.G.! Write today for complete information.

PACIFIC GAS RADIATOR CO.

*Main Office and Factory
Huntington Park, Calif.*



The Whys of the Safety Code

THIS is the sixth installment of explanations of the objectives which prompted the writing of the National safety code by the N. B. F. U., as contained in Pamphlet No. 58. Others appeared in the May, July, September, October, and November issues, and more will follow later. Those desiring more specific information may write to our Research Department.

Continuing with Division 1, we come to Section 13:

13. Filling Pipes and Discharge Pipes

(a) Why is the location of filling connection prohibited inside of building?

Experience has taught that all transfer operations should be done out-of-doors where accumulation of gas due to leaks in connections or to a hose break can be dissipated into the air.

This rule is not applicable to cylinder filling plants when proper ventilation and fire protection equipment has been provided.

Filling connections outside of the building should be at a safe distance from the building to reduce the exposure in case of a flash.

(b) What is the purpose of check valves in filling lines?

Reverse flow check valves are required in all filling connections to prevent escape of the tank contents in case of a broken hose or coupling failure.

(c) *What is the purpose of excess flow valves?*

Excess flow valves are an added protection to prevent escape of tank contents in case of failure of the tanks valves or a break in the piping beyond the tank valves that might be open.

(d) *Why are shut-off valves required at tank?*

All openings except safety valve and gaging connections are required to have a shut-off valve directly adjacent to the tank. Large valves should be flanged to a connection welded into the tank and smaller valves should preferably be screwed directly onto a nipple welded into the shell. All tanks must have these shut-off valves which can be considered a part of the tank so it is possible to completely shut in the contents of the tank. Valves located in lines away from the tank are not desirable due to possible damage to line and fittings between the valve and the tank.

14. Safety Devices

What are safety valves for?

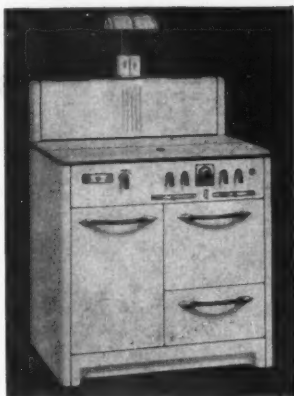
Every pressure vessel, whether it is used for steam, air, gas or LP-Gas, must be provided with a safety valve to prevent bursting in case of over-filling, expansion of the material contained or increase in pressure due to external heat.

What is the discharge area of a safety valve?

The discharge area of a safety valve is the free area available for discharge when the valve is opened. This is not the pipe size of the valve but the minimum free area made available between the valve and the

WEDGEWOOD ★ RANGES

MEET EVERY SINGLE
REQUIREMENT OF
BOTTLED GAS USERS
—AT LOW FUEL COST!



Wedgewood Quality
pays for itself many
times over, and gives
lifetime satisfaction.

WEDGEWOOD

THE MODERN RANGE

James Graham Mfg. Co.

Los Angeles, San Francisco, Newark,
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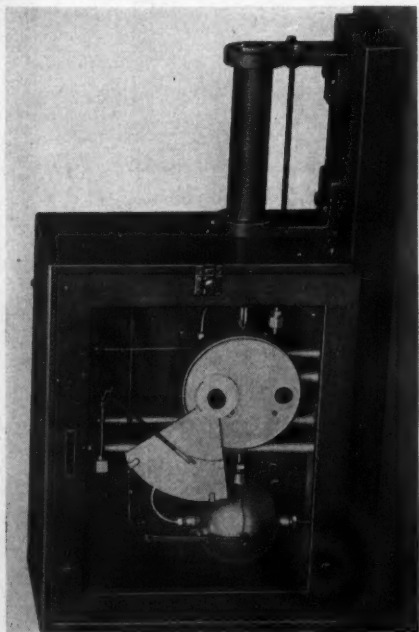
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With or Without Full Temperature Compensation
SEND FOR DETAILED BULLETIN
AMERICAN RECORDING CHART CO.
3113 EAST 11TH STREET, LOS ANGELES, CALIFORNIA



seat or through the discharge passages, whichever is the smallest. All safety valves of the same pipe size do not have the same discharge area.

Why is the 120% of tank pressure specified?

The free area of the safety valve at a pressure of 20% above its tight setting is required. Safety valves are marked with the free area but they do not show at what percentage above the setting pressure this area is developed. The selection of the size of safety valve for a given size container should be obtained from the valve manufacturer in accordance with the free area in the tables appendix A & B at 120% of tight setting pressure.

Why is safety valve requirement less for buried tanks?

Buried tanks are not subject to outside heat exposure, therefore a smaller valve is satisfactory.

Why should safety valves have direct connection to vapor space?

When the pressure is built up in a tank beyond the safety valve setting it is desirable to allow vapor to escape and not liquid for several reasons: (1) Escaping vapor affords much less risk from outside fire. (2) As the vapor escapes it tends to cool the balance of the liquid further lowering the pressure in the container. (3) The safety valve has a much greater vapor capacity than liquid capacity.

What is a fusible plug?

A fusible plug is a pipe plug with a hole drilled in it which is filled with metal like solder which melts out at a predetermined temperature. The fusible plugs must be set

in the vapor space or the liquid will tend to cool the fusible metal causing it to hold tight at higher exposure temperatures.

Why is it necessary to seal safety valve adjustments?

Safety valve adjustments should be sealed to prevent changing the setting to an unsafe one. As many LP-Gas tanks eventually come into possession of people who have no fundamental knowledge of the equipment it has been found that at times safety valve settings have been changed to stop leakage and in extreme cases have been plugged up tight.

Why is a shut off valve prohibited on a relief connection?

Shut-off valves on relief connections are prohibited to prevent a possible condition of having a closed valve when relief is needed. Where duplicate relief valves are installed a three-way cock or two valves with inter-locked handles can be used under relief valves.

What is the reason for designing minimum and maximum initial discharge pressures for relief valves?

This part of the regulations is contrary to the safety valve regulations of the pressure vessel codes. However, the sections in these codes relating to safety valves are not mandatory according to the N.F.B. U. regulations. There may be difficulty in obtaining A.S.M.E. labels on tanks if these code regulations are not adhered to and some trouble has already arisen. The reason for desiring a higher discharge rating in safety valves is based on the fact that the cause of increase of pres-



Ranging from multiple outlet, winter air conditioning systems to circulating consoles, Fraser L. P. G. units fill every heating need with the highest efficiency.

Their advanced engineering, finest materials, and modern, eye pleasing design have great customer appeal—help make your selling easier.

Before shipment, every Fraser L.P.G. unit is tested with L.P.G. fuel under actual operating conditions, thus assuring top performance . . . utmost safety.

Installation is made easier by complete assembly, fully wired controls and other time saving features.

Fraser Furnace Co., specializing exclusively in Warm Air, gas fired heating, has recently doubled manufacturing space to care for constantly increasing demand.

Send for your illustrated data and specification sheets.

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**GAS HEATING
EQUIPMENT**

FRASER FURNACE CO.
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Here's a Proven Way
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LIQUEFIED PETROLEUM GAS!



Tell your poultrymen about the A. R. WOOD "Radiant" GAS BROODER. Tell them about its safety . . . its economy . . . its dependability . . . its convenience . . . its unsurpassed record for brooding efficiency.

This brooder is built especially for Liquefied Petroleum Gas. One brooder sells another. Get them started in your territory and watch your gas sales boom.

WRITE FOR FOLDER which describes the Brooder in detail and shows you how and why it is a boon for poultryman and gas dealer at the same time.

A. R. WOOD MFG. CO.

Santa Cruz, Calif.

Luverne, Minn.

sure in an LP-Gas tank is usually due to outside heat exposure and it is safer to have the safety set to hold tight at the maximum operating pressures due to atmospheric conditions than to have valves that are operating so close to opening pressure that they tend to leak. In case of a fire exposure, the safety valve would still take care of the vessel before it approached a dangerous pressure. Work is still being done on the entire safety valve sizing, setting pressures and capacities and until it is completed the present rulings must be used.

Why is discharge from safety valves piped upward away from the tank?

This is done to reduce the radiated heat from the vapor burning from a discharging safety valve and to help dispatch the vapors with air on a non-burning discharge.

Butane Depot Planned In Lompoc, California

An application has been made at Lompoc, Calif., for a butane depot there, according to Charles Everett, city inspector.

E. R. Monahan of the Industrial Accident Commission met with the city council recently to point out the methods and restrictions of storage to the council.

Traut-Little and Sons Open New Sales Room

Traut-Little and Sons, San Saba, Texas, recently celebrated the formal opening of its new sales and display room in that town. They carry a full line of butane gas appliances including ranges, heaters, refrigerators and automatic hot water heaters.



P. W. Ensign, seated, signing contract for new sound motion picture that will deal with manufacture and application of carburetion equipment. Standing: Elwood Siegal and R. R. Wyker.

Educational Film Will Explain Carburetors

A sales program is now under preparation by the Ensign Carburetor Co., Huntington Park, Calif., that will use modern educational methods for its presentation, according to R. R. Wyker, sales manager of the organization. One of the major features will be a sound motion picture, showing the development and manufacture of carburetors, their operation, and the ways in which various types of industry utilize this equipment. A still projector, using cards and slides, will supplement the picture.

When completed, the educational sales program will be used for sales promotion and service demonstrations throughout the country.

The Siegal and Zeigler studios are already in production on the film.

ARMSTRONG HEATERS

The 4 - Star Line

- ★ QUALITY
- ★ EYE APPEAL
- ★ LOW PRICE
- ★ REDUCED SERVICE CALLS

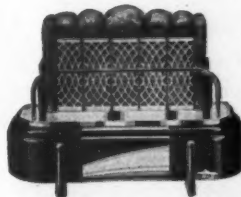
Four reasons why dealers are finding Armstrong Heaters such big sellers and such good profit makers.

10-C Bathroom Heater

Largest selling heater of this type. Last word in porcelain enamel beauty and heating efficiency. 1-piece body. Cast iron burner distributes even flame; equipped with adjustable air mixer. Reversible connection, left or right side. White with black lines or green and ivory. 11" wide, 14 1/2" high, 5 5/8" deep.



790 Radiant Heater



A popular seller. Body finished in brown vitreous enamel with heavy chrome hearth, front panel, dress guards and tubular legs. Glazed backwall is light tan shaded with brown. Light faced radiants harmonize with body. 2 sizes, 20,000 and 24,000 B.T.U. A. G. A. approval.

20,000 and 24,000 B.T.U. A. G. A. approval.

11 DIFFERENT STYLES

In the complete Armstrong line, there are 11 styles especially designed for liquefied petroleum gases—every one a big value—sized from 12,000 to 30,000 B.T.U. Finishes harmonize with any home or office surroundings.

PLAN NOW

for this profitable fall and winter business. Send for illustrated literature and attractive dealer discounts. Address Dept. BP.

ARMSTRONG PRODUCTS CORP.

Quality Appliances Since 1899
HUNTINGTON, W. VA.

Third Rate Drop Since 1937 Made By Blythe Gas Co.

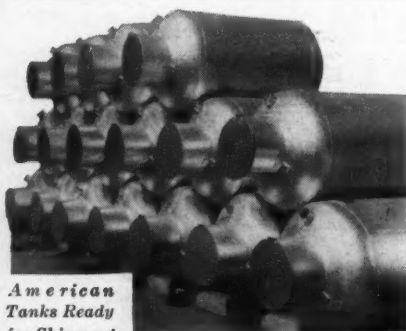
Designed to save its consumers as much as \$1,000 a year, the Blythe Gas Co., Blythe, Calif., announced in September its third rate reduction since the company entered the Blythe field in April, 1937.

All schedules have been reduced, with one new rate added. The rate reduction changes are made with the idea of lowering the cost of gas to every type of consumer, according to K. C. Jones, local manager.

Not only has the company made three rate reductions, but the mains have been extended three times to serve the growing community.

The new rate is Commercial No. 1, which benefits those who are in the 250 to 400 pound bracket. Previously these were classed in the domestic group.

Rates are now scaled down to as



American
Tanks Ready
for Shipment

LITTLE THINGS THAT COUNT!

Sometimes the difference between "top quality" and "mediocrity" of manufactured products is not even visible; yet, the difference in actual performance may be estimated in hundreds, even thousands of dollars. So it is with American "Top Quality" Butane-Propane Storage Tanks - - - manufactured of the finest materials possible to produce, by efficient, long experienced craftsmen. Write for details.

AMERICAN PIPE & STEEL CORPORATION

Manufacturers and Distributors

ALHAMBRA

CALIFORNIA

low as 2 3-4 cents a pound for those in the 2000 pound class.

The gas company also maintains a bottle gas service for rural customers and butane is distributed through mains to city homes and commercial users.



Northwest Dealers Affiliate With National Association

The Northwest Liquid Gas Association outgrew its month-old organization on Nov. 9 when, in Portland, Ore., it unanimously voted itself into the Pacific Coast Section of the Liquefied Petroleum Gas Association, following an invitation to so do by representatives of the national body who attended the meeting.

Tallent Ransome, L. C. Roney and John H. Kunkel, representing the Pacific Coast Section, attended the meeting to explain to the group the advantages of joining the older body. J. Woodward Martin, national president, and C. L. Parkhill, Sectional chairman, wired messages of greeting. C. A. Marsh, Multnomah Fuel Co., Portland, and William R. Dominick, Pittsburgh Equitable Meter Co., Seattle, will have charge of the activities of the Northwest members.

There were 26 members in attendance at the Portland gathering, they representing the LP-Gas industry in numerous towns and localities in Oregon and Washington.



Butane Used to Heat New Market And Locker Rooms at Kennett, Mo.

Butane will be used to heat a recently completed 35 x 52 ft. building at Kennett, Mo., which was built to house a meat market and 360 cold storage lockers that are rented to individuals desiring to freeze meats and game for storage.

Dolph Riggs and John Vicks will manage the meat market and plant.

Butane Paper Featured At C. N. G. A. Meeting

With natural gasoline, gas and refinery men from all over the west, as well as a contingent from the Midcontinent, in attendance, the 15th Annual Fall Technical Meeting of the California Natural Gasoline Association was held at the Ambassador Hotel, Los Angeles, Nov. 1.

Among those present were William F. Lowe, Tulsa, Okla., secretary, N. G. A. A., and C. R. Williams, Ponca City, Okla., Continental Oil Co., chairman of the N. G. A. A. technical committee, returning the visit of a C. N. G. A. contingent who attended the Natural Gasoline Association of America's 19th Annual Meeting held in Tulsa in May of this year.

Among the many papers read on a full program was one of special interest to the LP-Gas industry, entitled "Commercial Butane, a Waste Material, Becomes a Premium Product," prepared and delivered by Charles E. McCartney, Petrolane, Ltd., Long Beach, Calif.



New Butane Gas Company Opens in Forrest City, Ark.

A new butane company known as The Standard Butane Gas Co. of Forrest City, was opened in Forrest City, Ark., Oct. 22, according to S. B. Bolton, president of the new company.

The company, which is affiliated with the Standard Butane Gas Co., of Little Rock, Ark., will be managed by H. A. Summerhays who is also the vice president.

Headquarters for the company are in the Armory Building and in its new showroom are displayed propane and butane gas in bottles, above-ground and underground plants, gas ranges, automatic water heaters, room heaters and floor furnaces

WE BUILD *Your* LOAD *IN Our* LABORATORY



Tested engineering
backs every PAYNE
L.P.G. FURNACE . . .

backs your merchandising. Here's
how:

1. Individual Testing: Each Butane-Propane-fired PAYNE unit is tested by the PAYNE Testing Laboratory.
2. Custom-Adjusted: Each PAYNE L.P.G. Furnace correctly adjusted to B.t.u. heating value and specific gravity of the mixture it is to burn.
3. Time-Proven: Hundreds of installations in over twelve years prove PAYNE'S experience with Liquefied Petroleum Gas fuel.

PAYNE Dealerships are open in several L. P. G. territories. Write J. H. Keber, Sales Mgr.



- Modern Consoles
- Floor Furnaces
- Duplex Furnaces
- Zoneair Units
- Forced Air Units
- Gravity Furnaces

PAYNEHEAT
Payne FURNACE & SUPPLY CO., INC.
— BEVERLY HILLS • CALIFORNIA —

Peerless Wall Heaters

Today Buyers everywhere are demanding Peerless Gas-Fired Wall Type Bathroom Heaters.



No. 7602

They are nationally accepted!
1939 Sales more than 30 times 1934.
White or colored enamel finishes.

Write for complete catalogue and prices.

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LOUISVILLE, KENTUCKY

*For Safety
and Economy*

ETHYL MERCAPTAN

—Purified—

The **ACCEPTED**
standard
odorant
for liquefied
petroleum
gases.

**MALLINCKRODT
CHEMICAL WORKS**

ST. LOUIS

NEW YORK



Otherwise waste space is used on this Chicago truck for butane vaporizer, regulator and air cleaner.

Chicago Automotive Conversions Made by Peter Fish Industries

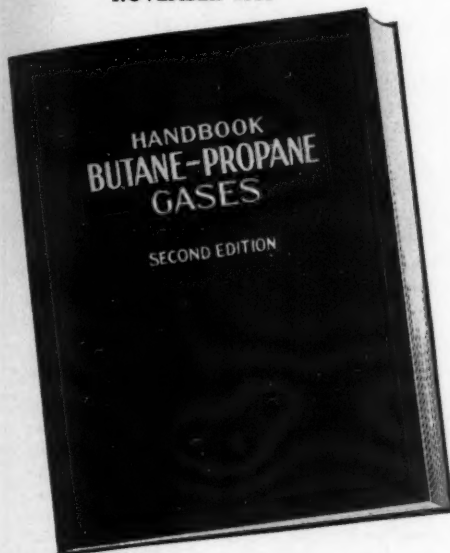
Conversions of automotive equipment in the Chicago area are rapidly growing in number, judging from orders for such jobs that are coming into the plant of the Peter Fish Industries, Inc. Such is the statement of Howard H. Josephs, general manager and chief engineer for the corporation.

The Peter Fish Industries, Inc., handles many nationally manufactured products in Chicago, among them the Century carburetor, Hackney truck tanks, F & E torches, Tokheim dispensers, Leonard spark plugs and Selwyn fittings. In addition to Mr. Josephs, who was formerly located on the Pacific Coast, the officers of the company are Peter Fish, president; W. A. Dundas, vice president; Sidney Yates, secretary.

Handbook BUTANE-PROPANE GASES

LATEST REVISION
NOVEMBER 1938

SECOND EDITION



415
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Gases; Analysis & Testing: Properties of Mixtures: Bottled Gas Distribution: Bibliography: Central Plant Directory: Catalog Section.

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1709 West 8th Street, Los Angeles, Calif.

DECEMBER-1940

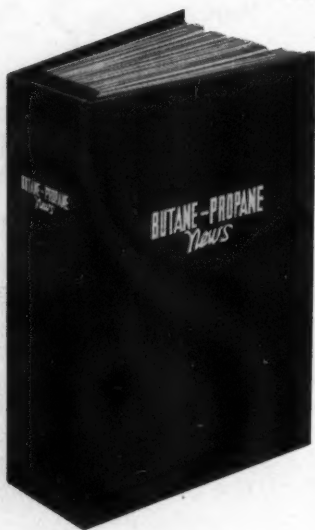
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*Send check for \$1.50 for each
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BUTANE-PROPANE
News

1709 West Eighth Street

Los Angeles, California

W. A. Hart Made District Manager For General Gas Light Co.

The General Gas Light Co., manufacturers of Humphrey products, has recently announced the appointment of Walter A. Hart, as manager for the Pacific Coast states with office and warehouse at San Francisco.



WALTER A. HART

Mr. Hart comes to this connection with over twenty years of heating experience, half that time being with utilities. Being schooled in manufacture as well as application of equipment should make him well fitted to serve an important role in West Coast gas circles.

The Liquefied Gas Company Constructing New Building

The Liquefied Gas Co., Rockport, Texas, is carrying on business from its temporary headquarters in a furniture store building while awaiting completion of its new office and show rooms being built on Market Street in Rockport.

The company carries a stock of gas ranges and heaters and maintains a service department in its temporary headquarters.

LP-Gas Ordinance for Waco, Tex.

Waco, Texas, recently passed an ordinance regulating and restricting transportation, storage and installation of liquefied petroleum gas and calling for licensing of trucks and trailers dispensing or hauling such gas within the city of Waco, according to news reports.

QUALITY PRODUCT

PROPANE
BUTANE
OR
MIXTURES

Philgas believes that there is no substitute for a full measure of quality in every gallon of product it produces or sells.

Philgas products are sold on what are probably the most complete and most rigid quality specifications in the liquefied gas industry. **YOU** can benefit by buying *assured quality* from Philgas.

Philgas
DEPARTMENT

PHILLIPS PETROLEUM COMPANY
GENERAL MOTORS BUILDING
DETROIT, MICHIGAN

NEW YORK
PHILADELPHIA
CHICAGO

MILWAUKEE
ST. LOUIS
AMARILLO

BARTLESVILLE, OKLA.

THE NATION'S LARGEST MARKETER
OF LIQUEFIED PETROLEUM GASES

Superior FLARE FITTINGS

Especially For

L. P. G. INSTALLATIONS

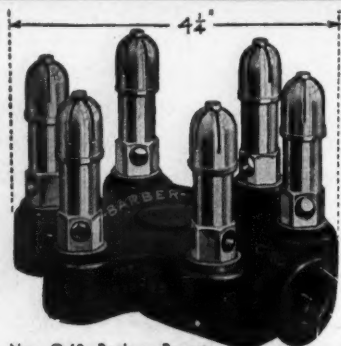
SAE (Flare) Unions,
Couplings, Adapt-
ers, Elbows, Tees,
Crosses and Nuts

Listed as Standard by
**UNDERWRITERS
LABORATORIES,
INC.**



WRITE FOR BULLETIN

SUPERIOR VALVE & FITTINGS CO.
1509 WEST LIBERTY AVENUE
PITTSBURGH · PENNSYLVANIA



No. C-60 Barber Burner

BARBER APPLIANCE BURNERS

For every appliance, there is a Barber Burner unit with proper jets to suit the combustion requirements of Butane or Propane Gas, and to fit the appliance. Eliminate servicing and back firing. Every distributor of these fuels, as well as appliance builders, can best serve their customers by recommending genuine Barber Burners. Submit your burner problems to us. Write for Catalog showing complete Barber line.

THE BARBER GAS BURNER CO.
3704 Superior Ave. Cleveland, Ohio

C. G. Groff, Servel Official, Passed Away on Oct. 24

Charles G. Groff, chairman of the board of directors of Servel, Inc., and president and chairman of the board of directors of the Electrolux Corp., died Oct. 24. He was a resident of Belle Haven, Greenwich, Conn.

Mr. Groff was formerly engaged in editorial and advertising work for newspapers and engaged in sales promotion campaigns on a national basis, for which he gained a wide reputation as an expert consultant. He joined the Electrolux Corp. in 1933 and Servel one year later.



The above photograph shows the presentation by Emmett A. Smith, Southern Heater Co., distributors of Ruud Water Heaters, of a 17-jewel Waltham watch, fitted with Monel metal case and with chain and knife made of Monel metal to Hal S. Phillips, president of the General Gas Corp., of Baton Rouge. The presentation was made for meritorious service rendered by Mr. Phillips in the distribution of Ruud Water Heaters with tanks of Monel metal throughout the territory served by his company.

Ewing Butane Gas Co. Profits From Texas State Fair Crowds

For the second consecutive year the Ewing Butane Gas Co., Dallas, held an exhibit at the State Fair of Texas, Dallas, Oct. 5-20. The 1940 attendance reached a new record high of 1,116,427, which directly reflected upon sales made and prospects obtained.

The smiling young lady in the accompanying picture of the exhibit is holding a portion of the "Pioneer" insulated head, an exclusive feature of the Ewing system.

Included in the display was a complete line of LP-Gas household appliances.



The Ewing Butane Gas Co. exhibits at the Texas State Fair.

Appliances Displayed at Fair

The Elkins Butane Co., Wheaton, Mo., recently displayed a complete line of ranges, heaters and refrigerators at the Barry County Livestock and Harvest show in Cassville, Mo. Approximately 10,000 people attended.

CLOW GASTEAM RADIATORS

combine

the **SUPERIORITY** of radiator heating
the **FLEXIBILITY** of individual heaters
the **CONVENIENCE** of butane gas



MAGNOLIA PUBLIC SCHOOL
(9 Classrooms and Superintendent's Office)
Magnolia, Texas

CONSTRUCTION

Walls—8" tile, 4" brick—plaster on tile
Floors—double wood
Ceiling—celotex

SIZE OF BUILDING

Cubical content.....106,260 cu. ft.
Floor space9,240 sq. ft.

HEATING SYSTEM

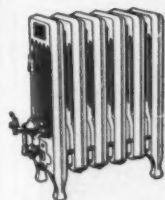
25 Clow Gasteam radiators—2041 sq. ft. of steam

BUTANE CONSUMPTION

Season 1939-40 . . . 1610 degree days . . . 1747 gallons

HEATING REQUIREMENTS

1314 degree days normal
Radiation sized for +20° to 70° F.
outside temperature



Each radiator makes
its own steam heat
with gas.

No basement, boiler or
steam piping used.

*For Heating a Single Room
or an Entire Building*

JAMES B. CLOW & SONS

201-299 North Talman Avenue Chicago, Ill.

- We Specialize in Valves and Fittings for Appliances using Liquefied Petroleum Gas as a Fuel.

- Write for descriptive circular.



- This Offset Adapter can be furnished in $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ " and 1" centers.

The W. J. SCHOENBERGER Co.
CLEVELAND OHIO



*The Mark of
Efficiency*

METALBESTOS

GAS VENT & FLUE PIPE

Unequalled for all around performance on L.P.G. installations.

*Don't say "vent pipe"—say
"METALBESTOS"*

FOR FULL INFORMATION WRITE

WILLIAMS-WALLACE CO.

160 HOOPER ST.

SAN FRANCISCO

*The Sign of
Safety*



LP-Gas Water Heaters Will Invade Portugal

War or no war, Day & Night water heaters are going to Europe.

Continental distribution on these products will start soon in Portugal, according to W. J. Bailey, head of Day & Night Manufacturing Co., of Monrovia, Calif., which has recently received a New York draft for a sample line of water heaters of various sizes.

The order came from a firm in Lisbon.

Commercial butane recently has made its way to Portugal, and as a result automatic water heaters are beginning to be in demand. On Oct. 4 the head of the Lisbon firm clipper-mailed an order for heaters and Day & Night immediately rushed packing and shipment. The order goes by water through the canal to New York, there to be trans-shipped and sent across the Atlantic in a fast freighter.

A similar initial order from Honolulu five years ago has developed the Day & Night business in the Hawaiian Islands to a total of \$50,000 per year.



Texas Recycling Plant Will Manufacture Butane

Expansion of the Tide Water-Sea-board Long Lake recycling plant, Palestine, Texas, for the manufacture of commercial butane was completed Oct. 1, according to recent reports.

Two storage tanks, 12-ft. in diameter and 50-ft. in length, each holding about 48,000 gallons, were installed, adding approximately 96,000 gallons to storage facilities of the plant.

The butane will be marketed only on a commercial scale and will be shipped by tank car, it is announced.

Organizational Changes Made By Parkhill-Wade

L. C. Arter, a specialist on butane truck, tractor and power unit conversions, has been brought to Los Angeles from the East to join the Parkhill-Wade staff, according to Gilbert Woodill. Mr. Arter, formerly connected with Ensign Carburetor Co. for 18 years, has been actively connected with the engine conversion field since its beginning.

Warren Renfrow, who has been with Parkhill-Wade for some time, has been assigned to all southern California territory outside metropolitan Los Angeles while William Bonner, who likewise has been with the company for a period of years, has been transferred to Fresno, and will cover the San Joaquin Valley.



Eastern Section Plans Important January Program

The Eastern Section of the Liquefied Petroleum Gas Association, under the chairmanship of W. L. Hauck, is outlining an extensive and varied program for its Winter meeting which will be held on Jan. 16-17, in New York City.

The sentiment of the program committee is in favor of inviting manufacturers of gas appliances and equipment to participate in an exhibit in connection with the meeting, but the final decision must await the result of an inquiry that has been addressed to the manufacturers throughout the country.



Four Butane Installations Made in Rison, Ark.

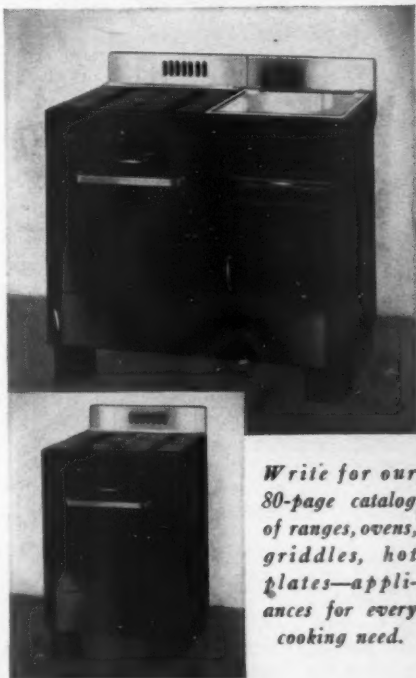
Four butane gas plants recently installed in the town of Rison, Ark., include an installation in the Rufus T. Baie Mortuary, one in the new county office building and two domestic plants.

NEW MODEL SOUTH BEND STREAMLINE LUNCHEONETTE

Here is a range of a hundred uses—another fast-selling South Bend specialty—prospective users are everywhere—lunch rooms, bars, schools, sandwich counters, homes.

Priced to sell—styled for either kitchen or front service—finished in handsome rust-resisting Black Beauty steel, with swanky chrome trim. Has insulation, controls, 20" oven, griddle, broiler—everything needed for a small lunch room—and South Bend quality throughout. Unfailing reliability and quality at low cost keeps the South Bend Range an easy first in popularity among L. P. G. dealers the country over.

Malleable Steel Range Mfg. Co.
South Bend, Indiana



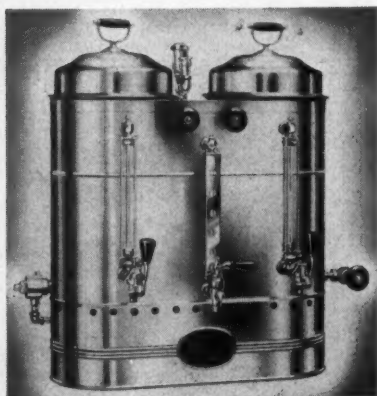
*Write for our
80-page catalog
of ranges, ovens,
griddles, hot
plates—appli-
ances for every
cooking need.*

PRODUCTS

Coffee Urn

S. Blickman, Inc., 534 Gregory Ave., Weehawken, N. J.

Description: This stainless steel twin coffee urn is designed for use with liquefied petroleum gas. It is equipped with Economy coffee faucets, is of the pressure syphon type and has a thermostatic control.



Non-pressure type also available. Choice of liners in heat-resisting glass, china or stainless steel. This and other new items are shown in a complete catalog just off the press which is available to readers of Butane-Propane News.

Electric Lantern

Economy Electric Lantern Co., 3100 W. Cherry St., Milwaukee, Wis.

Model: Duof Ecolite, No. 72.

Description: This lantern is recommended in Underwriters' Laboratories, Inc., Report No. E-10461

(Class 1, Group D) for use in the presence of flammable gases and vapors, and all hazardous locations under this classification. The die-cast reflector on side produces a focusing spotlight whose range is



approximately 1500 ft. "Top light" has concave reflector for diffusion of light when needed, or a red lens may be used for a warning signal. Pivot feature makes it possible to concentrate either of the two lights at any degree of a circle. Switch mechanisms is of patented wireless positive two-light contact plate. Brass used throughout to prevent corrosion. Uses a Mazda No. 27 lamp bulb in large reflector and Mazda No. 502 in top light. Manufacturer claims double efficiency and light at one-third the cost of ordinary flashlight cells.

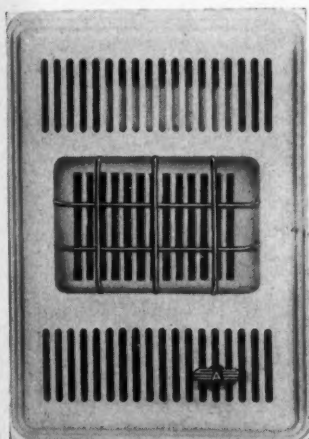
LP-Gas Cylinder Bulletin

William B. Scaife and Sons Co., Oakmont, Pa.

Bulletin No. 309.

Description: This new technical bulletin on liquefied petroleum gas cylinders contains factual information and data. It discusses construction and use of cylinders in general, is illustrated with pictures, diagrams and tables; typical cylinder systems are diagrammed and explained in

detail, and it contains a page of safety suggestions, covering I.C.C. regulations referring to LP-Gas cylinders. It also discusses the various types of cylinders, namely: The "cash and carry" cylinder, "transportable cylinder," and the "stationary" cylinder. Copies available upon request from company.

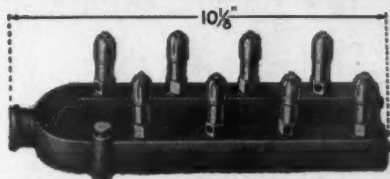


Wall Circulator

Armstrong Products Corp., Huntington, W. Va.

Model: No. 112.

Description: The front panel of this Armstrong wall heater is of heavy gage steel, porcelain enameled. Cast iron burner has raised ports and adjustable valve. The one-piece clay element radiates heat as well as serving as a circulator, and combustion is properly completed. Designed specially for bathrooms, halls, kitchens or small bedrooms. Three circulation channels at top, sides and rear of the radiant increase the efficiency of the heater. These channels also add to the safety factor of the heater as they prevent any appreciable amount of heat from penetrating to the outer shell of the heater which is set into the wall.



Appliance Burner

The Barber Gas Burner Co., 3704 Superior Ave., Cleveland, Ohio.

Model: CL-80.

Description: Barber burners are made to suit to combustion requirements of butane or propane gas and with proper jets and correctly designed to fit all appliances. They eliminate servicing and back firing. A catalog showing the complete line will be sent to dealers and distributors upon request.



Butane Vaporizer

Ransome Co., 4030 Hollis St., Emeryville, Calif.

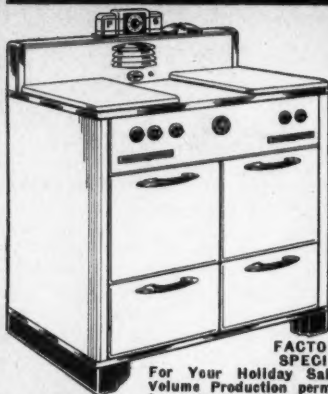
Model: V-2.

Description: A butane vaporizer built for LP-Gas installations on large farms, dairies, auto courts, and wherever it is not desirable to have un-



derground tank. Manufactured to give the owner the same advantages and economy of a large underground storage. The unit will produce gas under all weather and temperature conditions. Capacity is from two to five gallons per hour. The model illustrated is for domestic use; larger models available for commercial and industrial purposes.

CROWN GAS RANGES For



substantial mark-up. Available with conventional 4-Burner top or Divided top.
Write for Details

FACTORY SPECIAL

For Your Holiday Sales
Volume Production permits
low price—rapid turnover—

CROWN STOVE WORKS

4631 W. 12th PLACE, CHICAGO

Originators of BUFFET and DIVIDED TOP GAS RANGES

LIQUEFIED GAS

Your LPG Requirements

SHIPPED RAPIDLY FROM OUR
DALLAS AND ATLANTA STOCKS

GAS EQUIPMENT CO., INC.

2620 S. Ervay St., Dallas, Texas

GAS EQUIPMENT SUPPLY CO.

1157 W. Peachtree St., Atlanta, Ga.

Distributors for

BASTIAN-BLESSING CO.

L. C. RONEY, INC.

HACKNEY I. C. C. CYLINDERS

Liquefied Petroleum Gas Equipment

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933.

Of BUTANE-PROPANE News, published monthly at Los Angeles, California for October 1, 1940.

State of California, County of Los Angeles—ss.

Before me, a notary public in and for the State and county aforesaid, personally appeared Jay Jenkins, who, having been duly sworn according to law, deposes and says that he is the publisher of BUTANE-PROPANE News, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Jay Jenkins, 1709 W. 8th St., Los Angeles, Calif. Editor, Arthur Rohman, 1709 W. 8th St., Los Angeles, Calif. Managing Editor, Lynn C. Denny, 1709 W. 8th St., Los Angeles, Calif.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

Western Business Papers, Inc., 1709 W. 8th St., Los Angeles, Calif. Jay E. Jenkins, Los Angeles, Calif. George H. Finley, Santa Barbara, Calif. James E. Jenkins, Los Angeles, Calif. Arthur Rohman, Los Angeles, Calif. Craig Espy, Dallas, Texas.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct

or indirect in the said stock, bonds, or other securities than as so stated by him.

6. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is— (This information is required from daily publications only.)

JAY JENKINS,

(Signature of Publisher)

Sworn to and subscribed before me this 27th day of September, 1940.

(Seal)

Susan McConnell.

(My commission expires June 8th, 1943.)

Butane Brokerage Firm Opens Office in Berkeley, Calif.

The Butane Equipment Brokerage Co. with an office at 700 Allston Way, Berkeley, Calif., has been established by E. McNery, who is known in the industry in the central California area.

Mr. McNery will operate the company as a clearing house for butane equipment, it is announced. He plans to sell all types of equipment to men in the LP-Gas industry in the West.

Incorporation of Crick, Inc. Davenport, Iowa, Filed

Articles of the incorporation of Crick, Inc., Davenport, Iowa, were filed Oct. 18 with the Scott county recorder. Authorized capital is \$15,000, divided into \$10,000 common and \$5000 preferred stock.

Officers of the corporation are: Oliver W. Crick, president; Helen R. Crick, vice president, and R. C. Smith, secretary.

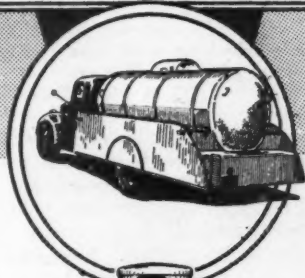
Pyrofax Bottled Gas Now Distributed in Barron, Wis.

Verlinden Appliances, Barron, Wis., was recently appointed a distributor of Pyrofax bottled gas for that vicinity. The firm also sells bottled gas ranges.

The sales staff of the Verlinden company recently attended a meeting of Pyrofax dealers in Eau Claire, Wis., to inspect the new product.

LOOK TO THE *Leader* FOR BETTER TANK *Values*

BUTANE-PROPANE....
★ UNDERGROUND TANKS
★ BULK STORAGE TANKS
★ TRUCK TANKS
★ SKID TANKS



A.S.M.E.
CODE
BUILT

UNDER-
WRITERS'
APPROVED



ECONOMY BUTANE-PROPANE SYSTEMS are constructed for 100.8 lb., 125 lb., and 175 lb. working pressure for underground use; 200 lb. working pressure for above ground. Approved by Underwriters' Laboratories; inspected by Ocean Accident & Guarantee Corp., Ltd.

Write, Phone or Wire for Details
"Tanks By Banks"

**DALLAS TANK
AND
WELDING CO., INC.**
201-5 West Commerce Street
DALLAS, TEXAS

RESEARCH

- **BUTANE-PROPANE** *News* wishes to keep its readers informed regarding technical and practical advances concerning research, manufacture, development, and transportation in the liquefied petroleum gas field. In this column will be found a resume of recently published articles, papers, bulletins and books dealing with the industry's various phases.—Editor.

The Fundamentals of Lubricants and Fuels and Their Application for Service Station Personnel—400 pages; cloth; charts and drawings; published by Petroleum Educational Institute, 704 South Spring St., Los Angeles, Calif.; \$15. The contents comprise a home-study course of 30 lessons on the use of motor fuels and lubricants for service station people who seek self improvement and advancement. Chapters are concerned with the petroleum industry, production, refining, characteristics of various fuels and oils, gasoline engines, theories of lubrication, greases, and with related subjects, knowledge of which is essential to proper servicing of motor vehicles.

Phase Equilibria in Hydrocarbon Systems. Methane-n-Butane System in the Gaseous and Liquid Regions—B. H. Sage, R. A. Budenholzer, and W. N. Lacey. *Industrial and Engineering Chemistry*, Sept., 1940, pp. 1262-1277. The specific volume of each of 24 mixtures of methane and n-butane was determined as a function of pressure and temperature at pressures as high as 3500 lbs. per sq. in. throughout the temperature

interval between 70° and 250° F. These experimental results were interpolated to even values of pressure and composition and are presented in tabular form. Derived values of the isothermal enthalpy-pressure coefficient for several of the mixtures are recorded. From these primary data the partial volumetric behaviors of methane and n-butane were calculated throughout the single-phase region at seven temperatures between 70° and 250° F. The partial enthalpy and the fugacity of these components were computed as functions of state for the greater part of the gaseous region. The partial thermodynamic behavior of each component is recorded in tabular form. Diagrams illustrating the behavior of this binary system are included.

Recycling Plant Owner Selects High-Pressure Absorption—F. H. Love. *Petroleum Engineer*, Aug., 1940, pp. 55, etc. New installation of Hunt Oil Co. in Long Lake field, Texas, operates at 1500-lb. processing pressure and returns gas at 2150 lb. Described and illustrated.

Study of Internal Corrosion in Horizontal Gas Engines—W. H. Davidson. *Oil and Gas Journal*, Sept. 19, 1940, pp. 89, etc. This article is limited to corrosion in the water-circulating passages of 24 x 36-in. twin-tandem double-acting gas engines. The units under discussion are cooled by continuous circulation of water from an open cooling system. The cooling water is directed through the engine in three streams, namely, cylinder-jacket water, exhaust-valve water and piston-rod water. After several years of continuous operation on gas-pipe-line duty, using over 60 of the 24 x 36-in. size units, numerous forms of water corrosion have developed. Corrosion

generally has been found in engine-cylinder jackets, exhaust-valve water jackets, as well as the interconnecting water piping. Although this type of corrosion has been of some concern, this article describes a particular type of corrosion as found in the water-cooled pistons and rods.

How to Install Degree-Day System.

—*National Petroleum News*, Sept. 11, 1940, pp. 25, etc. While the Degree-Day system for estimating fuel oil consumption and scheduling heating oil deliveries is not new, it still is not used by many oil marketing companies. Through the practical experience of oil companies the past few years, improvements have been made in the method as first installed. This article tells, in five steps, how any oil heating company, this coming season, without additional equipment and with little clerical work, can put a Degree-Day system into operation.

Propane As a Standby Fuel—D.

H. Wade. *Diesel Power*, Sept., 1940, pp. 767-769. With the installation of the two Worthington 20 x 25-in. natural gas engines in the Red Oak No. 2 plant of the Iowa-Nebraska Light & Power Company, at Red Oak, Iowa, it was decided to use propane as standby fuel for these 1,800-hp. gas engines. The properties of the propane used are given, as is a description of the equipment.

Natural Gasoline Plants in the

United States, Jan. 1, 1940—By G. R. Hopkins and E. M. Seeley, 21 pp. Biennial survey of natural gasoline plants. Concludes that concentration of natural gasoline manufacture in progressively fewer establishments, under way for more than 10 years, is losing much of its impetus. Information Circular No. 7126, U. S. Bureau of Mines, Washington, D. C.

Heats of Formation of Gaseous

Hydrocarbons—F. D. Rossini. *Chemical Reviews*, Aug., 1940, pp. 1-16. The existing data leading to values of the heats of formation of hydrocarbons in the gaseous state are discussed. "Best" values are given for the heats of formation of eight paraffin hydrocarbons (through the pentanes), 16 olefin hydrocarbons (through the pentanes), and three acetylene hydrocarbons, all in the gaseous state. Regularities and irregularities in the heats of formation, and their changes with structure, are discussed.

A Large Spinning-Band Fractionat-

ing Column For Use with Small Quantities of Liquids—R. H. Baker, Chas. Barkenbus, and C. A. Roswell. *Industrial and Engineering Chemistry*, Annual Edition, Aug. 15, 1940, pp. 468-471. A 70-plate spinning-band column, which has a holdup of 0.1 cc. per plate has been constructed. The column is practical and inexpensive, and may be used for analytical separation on small quantities of liquid.

Boiling Point - Molecular Weight

Chart for Higher Hydrocarbons—D. S. Davis. *Industrial and Engineering Chemistry*, Aug., 1940, p. 1148. From this chart, knowing the boiling point of any hydrocarbon boiling from 80° to 290° C., under a pressure of 1 mm. of Hg, the approximate molecular weight and number of carbon atoms can be quickly ascertained.

New Plant Indicates Recycling Not

Limited to Large Properties—R. C. Fish. *Petroleum Engineer*, Aug., 1940, pp. 99-102. Distillate separation based on low-pressure equilibrium principle proves efficient in small-capacity Cayuga, Texas, installation.



AUTOMATIC "Liquid Gas" WATER HEATERS



COMPLETE RHEEM LINE

15 to 95 Gallon
Capacities

100% SAFE

Equipped with
Grayson Unitrol

EFFICIENCY

*Designed and tested
for long life and
economy*

A. G. A. APPROVED

For Information Write

RHEEM MANUFACTURING CO.
Houston, Texas Chicago, Ill.
Los Angeles, Calif. Newark, N. J.

We manufacture

Hydro Gas Systems,

GEST-CO

Butane Gas Systems,

Propane Tanks,

Truck Tanks and

Bulk Plants.

WHEN BETTER SYSTEMS ARE MADE,
WE WILL MAKE THEM

**GENERAL
STEEL TANK COMPANY**

Birmingham, Alabama

Exclusive Sales Agents
Southern Gas & Equipment Co.
Birmingham, Alabama

Ensign Carburetor Appoints Northwest Distributor

The Ensign Carburetor Co., which has been established for 30 years and made more than 11,000 butane installations, announces the appointment of the Appliance Equipment Co. as exclusive distributor in the Pacific Northwest and in the northern and central coastal counties in California. Offices are located at 311 Bank of America Bldg., Berkeley, California.

The Appliance Equipment Co. is establishing its own dealer organization among firms well known for handling quality merchandise and rendering valuable service to the trade. Sub-dealer appointments are being made at strategic points, affording maximum representation for the entire line of Ensign butane carburetion equipment.

The personnel of the new company is headed by J. D. Anderson and F. W. Commins, formerly with the Ransome Co. at Emeryville, Calif. Long identified with the butane industry, these men are highly qualified in technical and practical phases of engine design and carburetion.

New Butane Vaporizer Ignores Temperature

The Electric and Carburetor Engineering Co., Los Angeles, has been appointed exclusive distributor in the southern California territory for the new Ransome butane vaporizer, according to an announcement made by E. E. Tattersfield, president of the company.

This vaporizer, designed to give the farmer and suburban home owner the advantage and economy of above-ground storage for LP-Gas, will handle from 2 to 5 gals. per hour. The unit will convert liquid butane into a combustible vapor regardless of outside temperature, it is stated.

Humphrey Heating Headliners



RADIANTFIRES



Radiantfire Circulators

Real Load Builders for LPG

"Acres of diamonds" in your own back yard?—that's true of every LPG company in the nation when sales outlets are considered in terms of Humphrey heating and lighting appliances.

Homes, stores, factories, garages, public buildings—every one is a prospect for one or more of the load builders Humphrey makes. Send today for complete information about these quality appliances for Butane-Propane users.



UNIT HEATERS



OPALITES

GENERAL GAS LIGHT CO., Kalamazoo, Mich.

The proper design and fabrication of Tanks for Propane Storage is dependent upon the knowledge and experience of the fabricators. MUCH DEPENDS UPON THEIR SPECIFICATIONS FOR MATERIALS AND THEIR CHOICE OF PROCEDURE FOR HANDLING THEM. Because Downingtown has had considerable experience in building tanks for this service, we do know the answers to those basic problems. Let us help you with yours.

Propane Tanks

fabricated by
DOWNINGTOWN IRON WORKS
Downingtown, Pa.



BUTANE *Power*

Directory of Automotive Butane Fueling Stations

- This is the first publication of a national directory of automotive butane fueling stations. BUTANE-PROPANE NEWS cannot guarantee its completeness, although every effort has been made to attain that end.

The only way this list can be made complete and kept up-to-date for future revisions is for every owner to send us full information. Those knowing of butane stations not included here, or that may be established later, are urged to so report to us. There is no charge for listings.

We ask the cooperation of the entire LP-Gas industry in helping to make this new service to our readers accurate and complete.—Editor.

ARIZONA

Flagstaff:

Russell Cheves Butane Service
Russell Cheves, Mgr.
418 N. San Francisco. Phone: 745
Mechanic; conversions

Gila Bend:

Arizona Edison Co., Inc.
Pat O'Hara, Mgr.
Junction Highways 80, 84, 85
Touraide Conoco Station
W. H. Hunt, Mgr.
½ mile w. on Highway 80

Globe:

Matlock Electric Co.
J. D. Matlock, Mgr.
127 N. Broad St.
Mechanic

Holbrook:

A. & B. Schuster Co.
T. L. Lively, Mgr.
1 blk. so. of Highway 66;
turn at El Moderno Tourist Court

Kingman:

Mohave Butane Gas Service
Merlin L. Davis, Mgr.
Sixth and Front Sts.
Mechanic; conversions

Phoenix:

Butane Corp.
W. T. Joplin, Mgr.
19th Ave. and Magnolia
Mechanic; conversions
Butane Filling Station
Jack Gordon, Mgr.
901 19th Ave.

Prescott:

Whipple Motor Service
Dewey L. O'Neal, Mgr.
East Sheldon St., on truck route
Mechanic

Safford:

Long's Furniture Co.
C. W. Long, Mgr.
711 Central Ave.
Mechanic; conversions

ARIZONA—Continued

Tucson:

English Butane Corp.
William L. English, Mgr.
2800 S. 4th Ave.
George Gonce
6th St. and 7th Ave.
Mechanic; conversions

Tuma:

Charles Borer, Mgr.
14th St. and Highway 80

Willcox:

Home Gas and Fuel Co.
On State Highway 86
Mechanic; conversions

ARKANSAS

Dermott:

Brazil Butane Gas Co.
B. M. Brazil, Mgr.
Mechanic; conversions

North Little Rock:

Arkansas Butane Co.
T. T. Burgess, Mgr.
Fifth and Cypress
Sam Stevens
3½ miles north on Highway 70

Rector:

Jones Butane Gas Co.
C. P. Jones, Mgr.
Mechanic

Texarkana:

Economy Gas Co.
C. C. Fricks, Mgr.
409 State Line
Mechanic; conversions

West Helena:

Delta Butane Gas Co.
T. G. Cunningham, Mgr.
Conversions

CALIFORNIA

Angel's Camp:

C. A. Simondet

Atascadero:

Iva D. Platz and Sons
Mechanic; conversions

Bakersfield:

Bakersfield Truck Center

Harry Redfern, Mgr.
4th and Highway 99
Mechanic

McCormac's Greenfield Corners
C. M. McCormac, Mgr.
Mechanic

Petrolane Service
1 mile so. on Highway 99
Mechanic

Sassia and Wallace Corp.
L. D. Wallace, Mgr.
419 19th St.

Mechanic; conversions

Seaside Service
E. C. Minner, Mgr.
230 23rd St.
Mechanic by phone
H. L. Spears

Barstow:

Butane Limited Distributors
J. C. Myers, Mgr.
1½ miles e. on Highway 91
Southwest Gas Corp., Ltd.
J. T. Koeneman, Mgr.
127 E. Main St.

Bayshore:

Covarrubias & Balech
E. Covarrubias, Mgr.
Between Geneva & McDonald Aves.
Mechanic; conversions

Becumont:

C. M. Denton
East Limits, Highway 66
Conversions

Bishop:

Mountain Liquid Gas
E. T. Thompson, Jr., Mgr.

Blythe:

Piper Brothers Service Station
Al Pierce, Mgr.
24 hr.

Boulder Creek:

Barrett Butane and Equipment
O. T. Barrett, Mgr.
Central Ave.
Mechanic; conversions

Brawley:

Lawrence O'Connell

CALIFORNIA—Continued

Capitola:

Butane Gas Service Co.
R. Mellon, Mgr.
Mechanic; conversions

Castaic:

B. F. Gilmour

Chico:

Consumers Fuel and Storage
J. H. Priel, Mgr.
5th and Orange
24 hr.; mechanic

Cloverdale:

George & Louie's S. S.
Louis Ottoboni, Mgr.
Redwood Highway

Coachella:

Superflame Butane Gas Co.
Sam Elledge, Mgr.
Highway 99, 2½ miles so. of Indio

Colton:

Butane Gas Co.
C. B. Tillotson, Mgr.
1½ miles e. on Highway 99
Roy Phillips Station
Roy G. Phillips, Mgr.
833 W. "T" St.
Mechanic

Corcoran:

Dyer Trucks
E. O. Dyer, Mgr.
700 Whitley Ave.
Mechanic; conversions
L. A. Willis

Delano:

Epps Service Station

Dinuba:

Blair Automotive Service
Earl T. Blair, Mgr.
On El Monte Way

Dixon:

Karl A. Hess
3 miles no. on Highway 40

Dos Palos:

Painters Butane Transportation Co.
C. S. Painter, Mgr.
Mechanic; conversions

El Centro:

Petrolane, Ltd.
Earl Rawlinson, Mgr.
Mechanic; conversions
Simpson's Super Service
Jess E. Simpson, Mgr.
Imperial and Adams Sts.

El Monte:

El Monte Butane Station
J. E. Woods, Mgr.
701 E. Valley Blvd.
Mechanic; conversions

Emeryville:

Ransome Co.
Tallent Ransome, Mgr.
4030 Hollis St.
Mechanic; conversions

Escondido:

Escondido Butane Gas Co.
A. C. Perkins, Mgr.
4th and Pine Sts.

Fairfield:

Pacific Truck Service

Fallbrook:

Donald Anthony
Main St.

Fort Bragg:

Kempee Hardware Co.
W. F. Kempee, Mgr.
419 Main St.
Conversions

Fowler:

"99" Service
Avasian Brothers, Owners
Highway 99

Fresno

G. H. Bragg
3 miles so. on Highway 99,
near overpass
24 hr.; mechanic; conversions
Dick's Truck Station
Dick Persingee, Mgr.
3 miles no. on Highway 99
Mamouth Service Station
10 miles no. on Highway 99
24 hr.
C. S. Merriman
Leo A. Kelly, Mgr.
1470 Blackstone Ave.

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Mechanic; conversions
Truck Fuels Inc.
M. A. Nelson, Mgr.
129 Divisadero
24 hr.
Union Station
J. D. Jennings, Mgr.
Valley Butane Service
John Agbashian, Mgr.
¼ mile so. on Highway 99
24 hr.

Garberville

Ransome Co.

Gilroy:

Western Butane Equipment Co.
H. B. Weeks, Mgr.
111 2nd St. or 180 N. Egleberry St.
Mechanic; conversions
Phone Gilroy 477-382

Grass Valley

Glenbrook Gas Co.
Tom Legg, Mgr.
2 miles e. on Highways 49 & 20
Mechanic; conversions

Greenfield:

McCormac Service
Highway 99

Gridley:

Prydes General Petroleum Station
Leslie J. Pryde, Mgr.
On Highway 99E
Mechanic

Gustine:

Michado & Mello Signal Station
High School St.
Fuel 6 p.m. to 9 a.m.; phone 78

Half Moon Bay:

Thompson and Silva
Conversions

Hanford:

Hanford Appliance Co.
Gerrit Googaard, Jr., Mgr.
¾ miles e. on Visalia Highway
Mechanic; conversions

Vigario's Garage
Walter Vigario, Mgr.
1 blk. e. of city limits on the
Visalia Highway
Mechanic; conversions

Hayward:

Warren Transportation Co.
E. Guy Warren, Mgr.
Heskerion Blvd.
Mechanic

Hemet:

D. W. Hollingsworth
Mechanic; conversions

Hollister:

Dassel's Butane Service
Ray L. Dassel, Mgr.
San Juan Road
24 hr.; conversions

North Hollywood:

Ericsson and Mudd
8125 Lankersheim Blvd.

Hynes:

"Doc's" Super Service
465 S. Paramount Ave.
Phone ME 3-9425

Ignacio:

S. S. Taylor's
O. F. Taylor, Mgr.
Highway 101, 7 mi. n. of San Rafael

Imperial:

Carter and Hunter
512 "L" St.

Indio:

Indio Gas Co.
201 Towne Ave.
Mechanic

King City:

Francioni's Seaside Service Station
N. Main St. on Highway 101

Lakeport:

Lampson Service Station

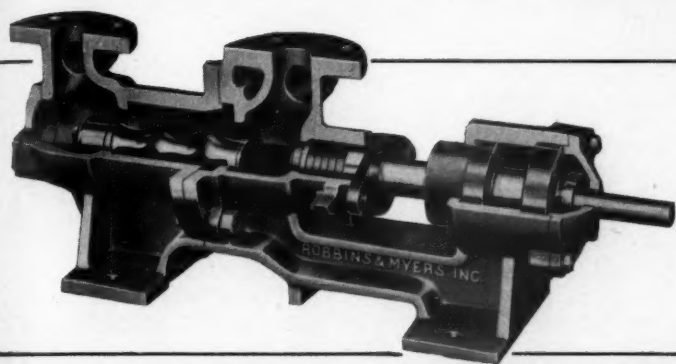
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Lemoore, Calif.—Continued

H. S. Brietigam, Mgr.
Corner E and Heinlen Sts.
Mechanic

Livermore:

R. A. Hansen
82 N. Livermore Ave.

Long Beach:

California Product Service
Ralph Cannon, Sup. Ser. Station
Washington and Alameda
Petroleum Ltd.
C. E. McCarthy, Mgr.
2901 Orange Ave.
Paul D. Oakford
3252 Cherry Ave.
Mechanic; conversions

Los Angeles:

American Liquid Gas Co.
Charles H. Holtz, Mgr.
4523 Downey Road
Butane Limited
Charles Wright, Mgr.
2146 W. Washington Blvd.
Mechanic; conversions
Commercial Super Service
1345 E. 7th St.
Katz & Lovelaugh
7th and Alameda
McDonalds Super Service
925 E. 9th St.
Newman Brothers
Henry Traub, Mgr.
7th and Alameda
Olympia Service Station
C. A. Warren, Mgr.
330 S. Alameda St.
24 hr.; mechanic
Pacific Butane Co.
Stanley P. Bent, Mgr.
1206-10 E 6th St.
Mechanic; conversions
Super Service Station
Ralph Cannon, Mgr.
1711 E. Washington Blvd.
Truck Fuels, Inc.
R. C. Wagner, Mgr.
1626 S. Alameda St.
Mechanic; conversions

Los Banos:

Lorensen Butane Service
Fred Lorensen, Mgr.
Packeco Pass Highway
Mechanic; conversions

Madera:

Petrolane, Ltd.
A. E. Bunnell, Mgr.
Highway 99; 6 blks. no. of park
24 hr.; mechanic
Red Horse Service
D. C. Trine, Mgr.
600 N. 1st St.

Maywood:

H. & M. Butane Sales Co.
David T. Hamilton, Mgr.
5127 S. Maywood Ave.
Mechanic; conversions

Mendota:

Sorensen's Machine Works
Chris Sorensen, Mgr.
Mechanic; conversions

Merced:

99 Butane & Oil Co.
Ed. Wilde, Mgr.
16 16th St.
Mechanic; conversions

Meridian:

Hemphill Motor Co.
Wm. G. Hemphill, Mgr.
Mechanic; conversions

Modesto:

C. M. Annan
1327 12th St.
Mechanic; conversions
Big Tree Station
1 mile so.
24 hr.
David C. Elliott
On Highway 99, ½ mile out
Mechanic; conversions
H. Logan, Jr.
S. city limits and Blue Gum Road
Mechanic; conversions
J. S. West and Co.
Donald H. West, Mgr.

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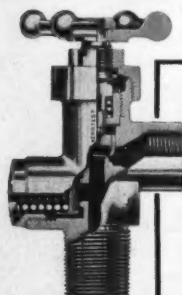
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Cecil Henderson, Mgr.
Railroad and Ramona Ave.
Mechanic; conversions

Murrieta:

Dale G. Cutlip
Mechanic; conversions

Nevada City:

Glenbrook Gas Co.
Tom Legg, Mgr.
2 miles e. of Grass Valley on High-
ways 20 and 49

Oakland:

Lowthian Freight Lines, Inc.
Walter Lowthian, Pres.
441 E. 8th St.
Mechanic; conversions
Ransome Co.
T. H. Ransome, Mgr.
4030 Hollis St.
Mechanic; conversions

Oceanside:

C. Roy Workman
Highway 101

Oxnard:

Petrolane, Ltd.
John H. Harris, Mgr.
400 Magnolia Ave.
Mechanic; conversions

Paso Robles:

Butane Sales and Service
W. R. Franscioni, Mgr.
2801 Spring St.
Phone 343; mechanic; conversions

Patterson:

Lyle E. Johnson
S. 2nd St.
Mechanic; conversions
J. H. Ramos
Mechanic; conversions

Petaluma:

Moretti's Truck Depot
Alvin and James Moretti, Mgrs.
2nd and "C" Sts.
Mechanic; conversions

Pittsburg:

J. C. Vietor
3 miles w. on Martiez Highway
Mechanic; conversions

CALIFORNIA—Continued

Pomona:

S. & H. Butane Co.
J. W. Spears, Mgr.
W. Holt and Erie
Mechanic; conversions

Ramona:

E. P. Hughes
901 Main st.
Mechanic

Red Bluff:

Henry Schafer
415 Madison St.
24 hr.; mechanic; conversions

Redding:

Associated Station
3 miles so. on Highway 99
Ransome Co. Service Station
H. O. McDaniel, Mgr.
So. part of Redding, back of Stand-
ard Oil plant by underpass
24 hr.; mechanic; conversions

Sacramento:

Butane Engineering Co.
C. M. Cerati, Mgr.
One mile w. of "M" St. bridge on
Davis Highway
Mechanic; conversions
Pacific Truck Service, Inc.
Allan Howland, Mgr.
California Fruit Bldg, 1000 4th St.
Mechanic; conversions
Ransome Co.
P. F. Murphy, Mgr.
916 N. "B" St.
24 hr.; mechanic; conversions
Valley Distributing Co.
Mel Myers, Mgr.
324 N. 16th St.
Mechanic

Salinas:

O. T. Barrett
So. on Highway 101
Gaudin Motor Co.
Al Stewart, Mgr.
2 miles so. on Highway 101
24 hr.; mechanic; conversions

San Bernardino:

C. C. Bell
406-8 S. "E" St.
Mechanic; conversions

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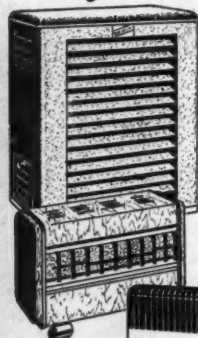
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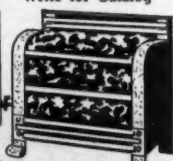
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Conversions

San Jose

Frank Hennessey

1 mile so. on Monterey Highway

Mechanic; conversions

Pacific Truck Service

R. L. Dickson, Mgr.

646 Park Ave.

Mechanic; conversions

Vollmer's Butane and Equipment

Manufacturing Co.

I. J. Vollmer, Mgr.

Bayshore and 12th, 1 block w. of

Oakland Highway

Mechanic; conversions

San Lucas:

Calif. Land & Cattle Co.

Theo. Smith, Mgr.

Mechanic

San Rafael:

McPhail Fuel Co.

James C. Cook, Mgr.

San Francisco Blvd.

Mechanic; conversions

Ransome Co.

Santa Ana:

H. B. Riggan

Corner 1st and Grand

Windolph Brothers

L. E. and R. D. Windolph, Mgrs.

702 E. 1st St.

Mechanic; conversions

Santa Barbara:

Henry A. Black

Lawrence Stevens, Mgr.

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Mechanic; conversions

Pine Tree Service

H. H. McCloskey, Mgr.

Highway 101

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 150 Center St.
 Mechanic; conversions

Santa Maria:

Garden City Butane
 Nat J. Bellando, Mgr.
 162 N. Broadway
 Mechanic; conversions

Saticoy:

Beck Tractor Service
 Al H. Beck, Mgr.
 5th and Wells Road
 Mechanic; conversions

Selma:

Farmers Butane Service
 537 S. Highway 99
 Ransome Co.
 R. E. Merrell, Mgr.
 South of city limits on Highway 99
 24 hr.; mechanic; conversions

Soledad:

A. F. Francioni
 Mechanic; conversions

Sonoma:

Hales & Symons
 I. J. Symons, Mgr.
 Washington St.

Soquel:

Vetterle Brothers Butane Gas Service Co.
 Mechanic; conversions

Stockton:

E. L. Holmes
 3225 Cherokee Lane; Highway 99
 Mechanic; conversions
 Jackson Brothers
 Lyle Jackson and Ed. Grogan, Mgrs.
 964 Cherokee Lane, 1 blk. off Wilson Way
 Mechanic; conversions

Tehachapi:

Grapevine Service
 6 miles no. on Mohave Road

Tracy:

Brick Wall Service Station
 2 miles w. on Highway 50

Tracy, Calif.—Continued

Frank W. Foster
6th and Orient St.
Glover Oil Co.
A. R. Glover, Mgr.
24 hr.; conversions

Tulare:

Hiebert Butane Service
Ocie Norby, Mgr.
Prosperity and Highway 99
Mechanic; conversions
"U Save" Service
E. Schmidt, Jr., Owner
½ mile no. on Highway 99
24 hr.

Turlock:

Souza Bros.
John J. Souza, Mgr.
Bradbury Road off Londen Ave., 3
miles out
Mechanic; conversions

North Turlock:

Stove Oil Co.
R. L. Jackson, Mgr.
¼ mile out on Highway 99
24 hr.; mechanic; conversions

Vacaville:

Butane Service Co.
E. H. Uhl, Mgr.

Ventura:

Ventura Butane Corp.
P. E. Lynch & Jay Hendricks, Mgrs.
240 W. Main St.
Mechanic; conversions

Victorville:

Southwest Gas Corp., Ltd.
T. J. Hillman, Mgr.
320 7th St.

Visalia:

Visalia Appliance Co.
Geo. W. Hayes, Mgr.
112 S. Locust St.

Vista:

Vista Butane Co.
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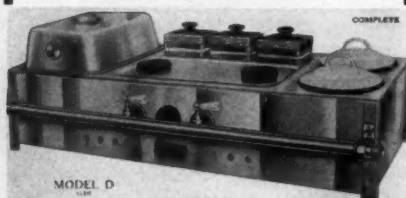
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MEMPHIS TENNESSEE

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Watsonville:

Burton's Butane Service
R. C. Burton, Mgr.
58 Porter Drive
Mechanic; conversions
Butane Gas Service
East end of bridge

Westmoreland:

Howards Super Service

Woodbridge:

Walter B. Tindell
Mechanic; conversions

Woodland:

Butane Service Co.
H. Liongerger
Knight's Landmet Highway
Mechanic; conversions;
phone 768-W

Yuba City:

General Petroleum Products
G. Morrison, Mgr.
Bridge & Shasta St. (on 99E Highway)
24 hr.; mechanic; conversions

COLORADO

Denver:

Colorado Natural Gas and Fuel Co.
F. N. Mabee, Pres.
56th and North Federal Blvd.
24 hr.
Skelgas Station
3450 Fox

IDAHO

Nampa:

Allen Fletcher
Mechanic; conversions

Pocatello:

Blue Gum Station

Twin Falls:

Liquid Gas and Appliance Co.
L. V. Rothrock, Mgr.
426 Main Ave. S.
Mechanic

ILLINOIS

Centralia:

T-V Supply Co.

Centralia, Ill.—Continued

C. J. Bisbee, Mgr.
116 S. Commercial
Mechanic; conversions
Universal Butane Corp.
E. C. Felt, Mgr.
Conversions

Chicago:

Riss and Company
E. A. Phillips, District Mgr.
355 N. Green St.
Mechanic; conversions

East St. Louis:

Skelgas Station
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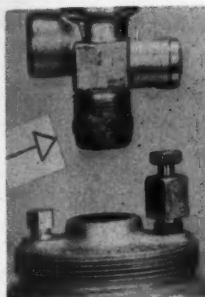
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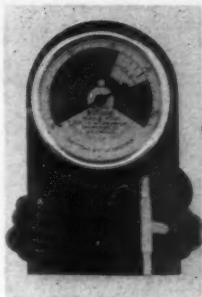
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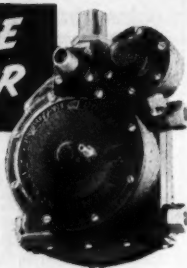


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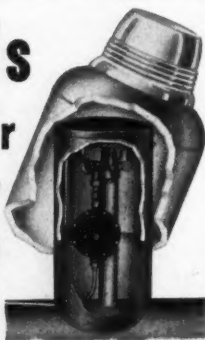
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